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MONDAY, JUNE 27, 1977
PART III

DEPARTMENT OF TRANSPORTATION

Coast Guard

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AIR POLLUTION PREVENTION

DEPARTMENT OF TRANSPORTATION

Coast Guard

[33 CFR Parts 154, 155, and 156]

[CGD 75-124]

POLLUTION PREVENTION

Vessel and Oil Transfer Facilities

AGENCY: Coast Guard, DOT.

ACTION: Proposed rule.

SUMMARY: The Coast Guard proposes to amend the pollution prevention regulations for vessels and oil transfer facilities to reduce accidental discharges of oil or oily wastes during vessel operations and during the transfer of oil or oily wastes to or from vessels. The proposed changes also clarify certain existing rules. Public and industry comments, the Coast Guard's operational experience, and new requirements under the International Convention for the Prevention of Pollution from Ships, 1973, make these proposed changes necessary.

DATES: Comments must be received on or before: August 11, 1977.

ADDRESSES: Comments should be submitted to Commandant (G-CMC/81) U.S. Coast Guard, Washington, D.C. 20590. Comments will be available for examination at the Marine Safety Council (G-CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590. A copy of the economic evaluation from which the economic summary in this document is taken and a copy of the environmental analysis are also available for examination at the above address.

FOR FURTHER INFORMATION CONTACT:

Captain George K. Greiner, Marine Safety Council (G-CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, SW., Washington, D.C. 20590, 202-426-1477.

SUPPLEMENTARY INFORMATION: Each person submitting a comment should include his name, address, and organization, if any, identify this notice (CGD 75-124), and give reasons for his comments. No public hearing is planned. If the Coast Guard determines that a public hearing is necessary the time and place will be set in a later notice in the FEDERAL REGISTER.

DRAFTING INFORMATION

The principal persons involved in drafting this proposal are: Lieutenant Commander Harvey G. Knuth, Project Manager, Office of Marine Environment and Systems, and Mr. Stephen D. Jackson, Project Attorney, Office of Chief Counsel.

DISCUSSION OF PROPOSED AMENDMENTS

Parts 154, 155, and 156 were published December 21, 1972 (37 FR 28250), effective July 1, 1974, and were amended September 11, 1975 (40 FR 42189). Since being published, many comments have been received, showing that some changes are needed. The Coast Guard's operational experience leads to the same conclusion. Additionally, in November 1973 the International Conference on Marine Pollution, under the auspices of the Inter-Governmental Maritime Consultative Organization (IMCO), adopted the International Convention for the Prevention of Pollution from Ships, 1973. This Convention, when it enters into force, will require oil-water separators, and bilge oil content monitors or alarms. The Coast Guard has decided that the Convention establishes a reasonable and environmentally effective set of standards on which certain vessel requirements for the discharge of oily mixtures can be based.

A discussion of the proposed amendments that significantly alter the regulations follows:

1. The heading of Part 154, Large Oil Transfer Facilities, is misleading as the application of this part is not a function of facility size, but rather vessel capacity. Therefore, "large" is deleted.

2. The wording in § 154.100 has been misconstrued generally to mean that this part applies only when a transfer is being conducted. Proposed § 154.100(a) is changed to show that Part 154 applies at all times during which a facility is in an operationally ready status and is capable of conducting oil transfer operations.

Although public vessels are exempt from compliance with these regulations, facilities that transfer oil to or from public vessels are not. Therefore, "public vessel" is added to proposed § 154.100.

The specific exemption of lube oil and non-petroleum based oil is deleted. If lube oil is transferred in bulk to or from a vessel with a capacity of at least 250 barrels of lube oil, regardless of the use of the lube oil, it should be regulated. If non-petroleum based oil is transferred in bulk to or from a vessel it will be regulated when the vessel capacity for non-petroleum based oil reaches 250 barrels.

The Coast Guard is considering expanding the applicability of § 154.500 to all facilities, regardless of the capacity of the vessel served, to ensure that all hose assemblies used to transfer oil meet the design standards. Upon determining the need, regulations may be published.

3. Several definitions are added or reworded in proposed § 154.105.

4. Proposed §§ 154.107 and 154.108 replace § 154.330 (waivers) and are similar to proposed §§ 155.107, 155.110, 156.107, and 156.110. The Captain of the Port (COTP) and the Officer in Charge, Marine Inspection (OCMI) need the authority to allow alternatives to the requirements in these regulations that provide an equivalent level of protection for the environment, without having to grant an exemption. Proposed § 154.108 sets out the conditions for granting an exemption. An exemption does not require an equivalent level of protection of the environment; therefore, the procedures for obtaining an exemption are more stringent than those in proposed § 154.107.

5. The notification requirement in § 154.110(b)(3) is moved to proposed § 156.120(a) because it is an operational oil transfer requirement.

6. Proposed § 154.120(b) provides for the COTP to give a written report of inspection results to the facility operator for the record required by § 154.740(e).

7. Section 154.140 is moved to proposed § 156.112 because it is an operational oil transfer requirement.

8. Update and COTP review of the operations manual is incomplete. To improve control over the quality of the operations manual, new §§ 154.300(c) and (e) are added. No provision is made for facilities where English is not the predominant language.

Therefore, new § 154.300(a)(3) is added to require a bilingual operations manual when needed. Sections 154.760 and 154.770 are moved to new §§ 154.300 (b) and (f) and 154.320(b) to consolidate general operations manual requirements. Section 154.300(b) is moved to new § 154.300(d).

9. Review of the operations manual by operating and inspecting personnel is difficult because of the variety of formats. Proposed § 154.310 requires that the contents of the operations manual be listed in the order specified. The list of contents is expanded to include the proposed changes in Part 154.

10. New §§ 154.320(b) and (c) are added to allow the facility operator to initiate amendments to the operations manual.

11. New § 154.325 describes the letter of adequacy issued under new § 154.300 (e). A letter of adequacy is the means proposed by the Coast Guard to improve control over the quality of the operations manual by ensuring that the manual meets the requirements of this part and Part 156.

12. Proposed § 154.500 applies to all hoses because hoses of three inches inside diameter and less are often used to transfer oil and should meet design standards. Proposed § 154.500 also applies to all hoses regardless of the date of manufacture. By the time the proposed regulations are final most hoses manufactured before 1973 will be out of service. If a facility operator has an unused pre-1973 hose, then he may apply for an alternative under proposed § 154.107.

Sections 154.500(f) and (g) are changed by proposed §§ 154.500(e), (f), and (g). Proposed § 154.500(e) requires that the products for which the hose may be used and the maximum allowable working pressure (MAWP) must be marked on the hose. Proposed § 154.500 (g) requires that the burst pressure not be marked on the hose because the potential exists to mistake the burst pressure for the MAWP.

New § 154.500(h) is added to require that each hose used to transfer oil for fuel to a vessel that has a fill pipe for which containment is impractical must be equipped with an automatic back-pressure shutoff nozzle.

A note is added at the end of § 154.500 to inform readers of the availability of the American National Standards Institute (ANSI) standards mentioned in these regulations.

13. New § 154.510(b), requiring that manufacturers certify that a loading arm meets ANSI standards, is added to assist Coast Guard enforcement personnel in inspecting the facility.

14. Proposed § 154.520 requires closure devices for all hoses not in use to prevent oil spills resulting from residual oil in unblanked hoses.

15. When these regulations were first published, monitoring devices were in the developmental stage. Now, there are a number of devices on the market, and new § 154.525 is added to require installation of monitoring devices when the COTP determines that certain conditions exist.

16. Proposed § 154.530(a)(1) replaces § 154.530(b) and shows that the definition of hose handling and loading arm area applies whether the facility or the vessel is providing the hose.

The discharge containment sizes in § 154.530 are changed by proposed § 154.530(b) to correspond with the sizes now required in proposed § 155.310 for vessels, except that containment of less than 2 barrels is not allowed even for hoses of less than 6 inches inside diameter because fixed containment of less than 2 barrels at a facility is impractical.

Section 154.530(d) is changed by proposed § 154.530(c) to require that portable containment be at least ½ barrel capacity.

New § 154.530(d) is added to provide for portable containment for mobile facilities, because fixed containment of any size is impractical for a mobile facility.

17. In § 154.545, "ready access" is a vague term that causes unnecessary response delays. Therefore, new § 154.545(c) is added to require each facility to establish time delays for deployment of containment equipment, subject to approval by the COTP.

New § 154.545(d) is added to require the installation of oil containment material around vessels when the COTP determines that certain conditions exist.

18. Proposed § 154.550(a) deletes the requirement that the emergency shutdown communications system be separate from the routine communications system.

Proposed § 154.550(b) adds a requirement that the emergency shutdown means must be other than the valve at the dock manifold connection, to prevent the inadvertent release of a significant amount of oil if the valve at the dock manifold connection is damaged.

New § 154.550(c) sets time limits for emergency shutdown.

19. New paragraphs (c), (d), and (e) are added to § 154.560 to provide that the communications system must be usable at all times, may be the same as the system permitted for emergency shutdown, and must use intrinsically safe portable radio devices.

20. Proposed § 154.570 deletes the requirement for specific illumination intensities except when the illumination is apparently inadequate. When the illumination is apparently adequate, specific illumination intensities are required and the illumination levels prescribed in proposed § 154.570(b) must be met. New § 154.570(d) is added to require that lighting not interfere with navigation.

21. New § 154.740(f) is added to require that the declaration of inspection be available for inspection by the COTP.

22. Sections 154.760 and 154.770 are moved to proposed §§ 154.300 and 154.320 (see item 8), and § 154.780 is moved to proposed § 156.113 because they are operational oil transfer requirements.

23. The date in proposed § 155.100 is deleted since these regulations are already in effect.

24. Several definitions are added or reworded in proposed § 155.105.

25. New § 155.107 is added and § 155.110 is changed for the reasons stated in item 4.

26. Section 155.130 is moved to proposed § 156.112 because it is an operational oil transfer requirement.

27. Proposed § 155.310(a) reduces the overall size of containment on vessels and provides a further breakdown of containment sizes for hoses of less than 6 inches inside diameter.

New § 155.310(b) is added to allow portable containment on tank barges with coamings surrounding the cargo hatches.

28. The Notice of Proposed Rule Making for the existing Part 155, published 24 December 1971, proposed that a fixed or portable container of at least 14 U.S. gallons be installed on vessels. Section 155.320 was extensively modified in its final form in response to a request for relief for smaller vessels. However, instead of permitting the use of a smaller container on smaller vessels, the final rule switched to requiring a two barrel fixed container on new vessels and a five gallon portable container on existing vessels. The two barrel fixed containment in § 155.320 has proven to be excessively large. Accordingly, proposed § 155.320 reduces the size of fixed containment, differentiates between sizes of new vessels above 300 gross tons, and provides for small portable containers on new vessels under 300 gross tons while retaining small portable containers for all existing vessels (under § 155.320, an existing vessel is one constructed before 1 July 1974). Extending the requirement for fuel oil discharge containment to vessels under 100 gross tons is being considered, and regulations may be published upon determining the need.

29. Proposed §§ 155.330 through 155.410 require installation of 15 parts per million (p.p.m.) oil-water separators and bilge oil content alarms or bilge oil content monitors aboard all vessels of 100 gross tons or more operating in the navigable waters and contiguous zone of the United States.

Sections 155.330 through 155.410 require that vessels of 100 or more gross tons be fitted with fixed piping systems for discharge to reception facilities of oily residues from main and auxiliary machinery spaces and fuel oil tanks that carry ballast. An exception is allowed for those vessels installing oil-water separating equipment acceptable to the Commandant of the Coast Guard. This approach encourages installation of the fixed piping system for discharge to reception facilities, but does little to promote installation and use of oil-water separating equipment. The net result is that oily mixtures containing large volumes of water and small amounts of oil are retained onboard for discharge to reception facilities. Very few ports have adequate facilities for receiving and processing large volumes of mixtures containing little oil and vessel operators have discharged the untreated oily mixtures overboard in violation of the law.

These proposed regulations, by requiring installation and use of oil-water separating equipment would reduce the total volume of oily mixtures retained onboard and would also increase the oil content of the mixtures. Thus, much smaller storage and handling capacity would be sufficient at reception facilities. Processing to recover reusable oil would also be simplified. All of this would reduce the overall cost of reception facilities and would stimulate their construction. In some cases a vessel could combine the residue from an oil-water separator with fuel for use in the propulsion plant and not need to use reception facilities.

To facilitate the availability of acceptable 15 p.p.m. oil-water separators, bilge oil content monitors and alarms, the Coast Guard is proposing approval regulations for that equipment in 46 CFR 162.050 elsewhere in this issue of the FEDERAL REGISTER. Those proposed regulations are based on the specifications adopted at the Sixth Session of the Marine Environment Protection Committee (MEPC) of the Intergovernmental Maritime Consultative Organization (IMCO).

30. Proposed §§ 155.330 (b)(2), (b)(3) and (b)(5)(ii) combine and clarify the requirements on a vessel's fixed piping system contained in §§ 155.340, 155.350, 155.370, and 155.380. Proposed §§ 155.330 (b)(1) and 155.330(b)(4) specify requirements for the oily waste and slop retention system required in § 155.330. Proposed § 155.330(b)(5)(i) adds a requirement for sample points in the fixed piping system. Proposed §§ 155.330(b)(6), (b)(7) and (b)(8) require installation of 15 p.p.m. oil-water separators and oil-content monitors or alarms and set out the piping system design requirements. Proposed §§ 155.330 (b)(1) and (b)(4) through (b)(8) are effective 2 years after the effective date of the final rule or at the vessel's first shipyard maintenance and repair availability after 6 months after publication of the final rule, whichever is earlier. This is done to allow vessel owners and operators to schedule the design work and equipment procurement necessary to comply with those requirements.

Several sources have indicated to the Coast Guard that a well designed oily mixture settling system might be capable of producing an effluent containing 15

p.p.m. of oil in water or less at significantly less cost than the purchase and installation of a 15 p.p.m. oil-water separator. Proposed § 155.330(c) allows substitution of an installed oily mixture settling system for the 15 p.p.m. oil-water separator required by proposed § 155.330(b)(6) if the settling system meets the design requirements in proposed §§ 155.330(c) (1) and (2) and if, after installation aboard the vessel, the settling system is acceptable to the Commandant (acceptance procedures to be proposed).

Proposed § 155.330(d) requires that each 15 p.p.m. oil-water separator, monitor, and alarm installed aboard a vessel after April 1, 1980 be approved by the Coast Guard under 46 CFR 162.050. (Elsewhere in this issue of the FEDERAL REGISTER.) The April 1, 1980, effective date for this requirement is proposed to allow time for approval testing of oil-water separating, monitoring, and alarm equipment.

Proposed § 155.330(d) does not apply to oil-water separators, bilge monitors, and bilge alarms installed on vessels before April 1, 1980. The question of whether separators, monitors, and alarms installed before April 1, 1980, should be required to meet the Coast Guard's applicable approval specifications is currently under study. Related questions, of whether separators, monitors, and alarms should be allowed to continue in service and, if so, under what conditions, are the subject of current discussion by the IMCO Marine Environment Protection Committee. The Coast Guard intends to issue regulations concerning existing installations after completion of its studies and the current IMCO discussions.

31. Proposed § 155.340 replaces and clarifies the requirements for oily waste and slop retention contained in § 155.330.

32. Proposed § 155.350 combines the requirements for bilge and fuel ballast residue pumping arrangements aboard vessels of less than 100 gross tons contained in §§ 155.360 and 155.390. Nothing in these proposed regulations requires installation of oil-water separating equipment aboard vessels of less than 100 gross tons; however, such vessels may, if they wish, install this equipment if it is installed and operated in accordance with proposed §§ 155.330(d) and 155.410.

33. The requirements for reception facility discharge points for vessels of less than 1600 gross tons in §§ 155.340(b)(2) and 155.370(b)(2) are moved to proposed § 155.360.

34. The requirements for shore connections applicable to uninspected U.S. vessels and all other vessels not in ocean or coastwise service in §§ 155.350(c) and 155.380(c) are moved to proposed § 155.370. Additionally, the requirement in § 155.350(c) that vessels not in ocean or coastwise service have shore connections meeting the specifications in appendix A to Part 155 or conforming to standard B16.5, Steel Pipe Flanges and Flanged Fittings or B16.31, Nonferrous Pipe Flanges, of the American National Standards Institute for a 4 inch standard flange has been deleted and replaced with a requirement that each shore connection or portable adapter on the vessel must fit the connections at each reception facility to which the vessel transfers oily residues.

35. Proposed § 155.380 exempts any vessel, that has a means onboard to burn as fuel, incinerate, or otherwise consume all oil residues, from the requirements for fixed reception facility discharge points and installed discharge pumps contained in proposed §§ 155.330(b)(2) and (b)(3) if the vessel has any means to transfer oil residues to a reception facility.

36. Proposed § 155.390 exempts any tank vessel, that combines all other oily mixtures with oily cargo residues for transfer and discharge in accordance with the requirements of Part 157 of this chapter, from the requirements in proposed § 155.330.

37. Proposed § 155.400 requires that a vessel operator have on board, and use, the instruction manual for the fixed piping system and each oil-water separator, oily mixture settling system, and bilge oil content monitor or alarm. This requirement is proposed to ensure that vessel operators have available and use the information necessary to operate in compliance with the discharge regulations contained in proposed § 155.410.

38. Proposed § 155.410 contains requirements for overboard discharges of oily mixtures. Proposed § 155.410(a) requires that each overboard discharge of an oily mixture into the navigable waters, or the contiguous zone, that is not combined with oily cargo residues, be made through a properly operating 15 p.p.m. separator and bilge monitor or alarm (as noted in item 30, § 155.330(c) provides that an oily mixture settling system acceptable to the Coast Guard may be substituted for the 15 p.p.m. separator). The 15 p.p.m. oil in water standard is contained in Annex I to the International Convention for the Prevention of Pollution from Ships, 1973. Proposed § 155.410(a)(2) notes the requirement that any overboard discharge of an oily mixture must conform to the limit prescribed by the Environmental Protection Agency (EPA) in 40 CFR 110.

That limit provides that a discharge may not create a sludge or emulsion or produce visible traces of oil in the water or along adjoining shorelines. The Coast Guard is currently having discussions with the EPA on the question of whether a discharge concentration of 15 p.p.m. oil in water is within the discharge limit prescribed by EPA regulations.

Proposed § 155.410(b) requires that each discharge of an oily mixture, that is not combined with an oily cargo residue, made from a U.S. vessel beyond twelve miles from the nearest land be made while the vessel is proceeding en route and at a concentration of 100 p.p.m. or less of oil in water. The 100 p.p.m. standard is contained in Annex I to the International Convention for the Prevention of Pollution from Ships, 1973.

Proposed § 155.410(c) requires that discharges of oily cargo residues and of oily mixtures combined with oily cargo residues meet Part 157 of this chapter.

Proposed § 155.410(d) establishes an effective date 2 years after the effective date of the final rule for the requirements in proposed §§ 155.410(a) and 155.410(b). This is intended to allow time for vessel owners and operators to accomplish the design, procurement and installation work necessary to comply with the discharge requirements.

39. The purpose of § 155.440 is to inform operating personnel of the prohibition against and the penalty for oil discharges. Proposed § 155.440 deletes the exception for foreign vessels and adds a requirement for the placard to be printed in the language(s) of the crew.

40. Section 155.480 is deleted since it duplicates regulations in 46 CFR 61.

41. Proposed changes to § 155.710 were recently published in the FEDERAL REGISTER at 42 FR 21190. Proposed § 155.710 in this document reflects those proposed changes. Comments on this proposed section should reference docket number CGD 74-044a.

42. Proposed § 155.720 clarifies that the requirement for oil transfer procedures also applies to transfers from tank to tank within a vessel because they are a potential spill source.

43. New § 155.740(c) is added to require that the vessel operator makes the oil transfer procedures available for inspection by the COTP or OCMI.

44. Proposed § 155.750 reflects proposed changes to Part 155. New § 155.750(o) requires cargo information for vessels, similar to the requirement for facilities in § 154.310(a)(6).

45. Sections 155.760, 155.770, and 155.780 are reworded for clarity, and the term U.S. is deleted from proposed § 155.770 to prohibit the draining of oil into bilges on all vessels.

46. New § 155.785, which is similar to proposed § 154.770, is added to regulate communications during vessel to vessel oil transfers (see item 19).

47. Proposed § 155.790 changes the lighting requirements for the same reasons as § 154.570 (see item 20).

48. The oil transfer hose use requirements in § 155.800 are moved to proposed § 156.120(k).

49. New § 155.805 is added to require that vessels have the means to blank off their hoses when not in use, which is similar to proposed § 154.520.

50. New § 155.815 is added to require that all vessel openings that could let water in or oil out are properly secured when the vessel is underway.

51. Section 155.820(d) is deleted because the requirement for valve inspection (§ 155.480) is deleted (see item 40). Proposed § 155.820(d) requires that the declaration of inspection be available for inspection by the COTP or OCMI.

52. Proposed § 156.100 includes public vessels and deletes the exceptions for lube oil and non petroleum based oil for the same reasons as proposed § 154.100 (see item 2).

The exception for the transfer operation on a public vessel is added because public vessels are exempt from compliance with the regulations, even though the transfer operation on a facility or other vessel transferring oil to or from a public vessel is not exempt.

53. Several definitions are added or reworded in proposed § 156.105.

54. Section 156.107 is changed and new § 156.110 is added for the reasons stated in item 4.

55. Sections 154.140, 154.780, and 155.130 are moved to new §§ 156.112 and 156.113 because they are operational oil transfer requirements.

56. Proposed § 156.115, presently § 156.110 deletes the specific conditions for serving as a person in charge of more than one vessel, which are unnecessarily restrictive, and replaces them with COTP authorization.

57. Generally, § 156.120 is changed for clarity. Some new requirements are added, and some paragraphs are moved within the section. A discussion of the specific changes follows:

a. The requirement to notify the COTP of oil transfer operations is moved from § 154.110(b) to proposed § 156.120(a) for the reasons stated in item 5. It is expanded to cover all transfers, instead of just mobile facility transfers, because the Coast Guard is unaware of numerous transfers that occur.

b. Proposed § 156.120(d) requires that hose should be supported to prevent kinking, as well as strain on the coupling.

c. New § 156.120(g) is added to require the use of the closure devices required by proposed §§ 154.520 and 155.805.

d. Proposed § 156.120(h) adds an exception for loading and unloading of deep tanks from the fixed connection requirement.

e. Proposed § 156.120(i) prevents simultaneous cargo transfer and ballasting or deballasting of cargo tanks, and still permits ballasting or deballasting of segregated ballast tanks while transferring cargo, because the piping and pumps are separate systems. The provisions requiring locking of valves is deleted because it is an unsafe practice and is prohibited under 46 CFR 35.35–10.

f. Proposed § 156.120(j) adds a definition of reinforcement.

g. New § 156.120(k) is added to replace the portion of § 155.800 regarding oil transfer hose use requirements.

h. New § 156.120(m) is added to ensure that monitoring devices required by proposed § 154.525 are being used.

i Proposed § 156.120(n) requires that any liquid be drained from containment to prevent any reduction in the capacity of containment.

j. Proposed § 156.120(p) prohibits any leaking connections except components of the oil transfer system that are inherently leaky, such as the packing glands of a pump.

k. New §§ 156.120 (s) and (t) are added and § 156.120(o) is reworded and moved to proposed § 156.120(u) to describe the responsibilities of the person in charge and other personnel on duty during oil transfers.

1. Proposed § 156.120(z) applies only to transfers between tank barges, because lighting for any other vessel to vessel transfer, involving at least one self-propelled vessel, is required by proposed § 155.790.

58. New § 156.125 requires that, whenever an oil discharge occurs, the oil transfer operation must be stopped and clean up started before the oil transfer operation may be resumed.

59. Section 156.130 is reworded for clarity.

60. Proposed §§ 156.150 (a) and (b) require each person in charge to inspect his own area of responsibility and to fill out the declaration of inspection.

Sections 156.150 (e) and (f) are combined in proposed § 156.150(f). Proposed § 156.150(f) requires that the vessel operator retain the declaration of inspection for all transfers, not just vessel to vessel transfers.

New § 156.150(e) is added to require the persons in charge to have signed copies of the declaration of inspection available for inspection by the COPT during the oil transfer operation.

61. Section 156.160(a) is reworded for clarity.

62. Section 156.170(a) is reworded for clarity. Proposed § 156.170(b) deletes the requirement that hose be tested in a straight and horizontal position, which will allow the hose to be tested in place and connections to be tested with the hose. Proposed § 156.170(c) changes the pressure to which equipment must be tested to 1½ times the maximum allowable working pressure (MAWP). This corresponds to 33 CFR 126.15(o) and is safer because it would prevent the present situation that allows testing of a hose at a low relief valve setting and use at a higher relief valve setting. New § 156.170(e) is added to allow the use of any liquid in testing of equipment.

This proposal has been reviewed for economic and inflationary impact under Department of Transportation "Policies to Improve Analysis and Review of Regulations" (41 FR 16200). The proposed regulation would affect approximately 6703 U.S. vessels and 3500–5500 foreign vessels. Cost for purchase and installation of the equipment would vary from $19,500 to $26,000 per vessel. Assuming that all U.S. vessel costs and one half foreign vessel costs would be passed to U.S. consumers dollar for dollar and the cost would be amortized over 10 years, the annual cost to the U.S. consumer would be $23.2 million. The increased cost for U.S. vessels would be divided among the different services as listed by the Merchant Vessel Documentation Division of the Coast Guard. The greatest cost, $65,364,000, would be to the towing service, over a two year period.

The proposed amendment would benefit the U.S. by reducing accidental discharges of oil or oily wastes during vessel operations and during the transfer of oil or oily wastes to or from vessels. Certain proposed changes would also facilitate enforcement of the regulations by the Coast Guard.

In consideration of the foregoing, the Coast Guard proposes to revise Parts 154, 155, and 156 of Title 33, Code of Federal Regulations to read as follows:

PART 154—OIL TRANSFER FACILITIES

Subpart A—General

Sec.

154.100 Applicability.
154.105 Definitions.
154.107 Alternatives.
154.108 Exemptions.
154.110 Letter of intent.
154.120 Facility inspection.

Subpart B—Operations Manual

154.300 Operations manual: General.
154.310 Operations manual: Contents.
154.320 Operations manual: Amendment.
154 325 Operations manual: Letter of adequacy.

Subpart C—Equipment Requirements

154.500 Hose assemblies.
154.510 Loading arms.
154.520 Closure devices.
154.525 Monitoring devices.
154.530 Small discharge containment.
154.540 Discharge removal.
154.545 Discharge containment equipment.
154.550 Emergency shutdown.
154.560 Communications.
154.570 Lighting.

Subpart D—Facility Operations

154.700 General.
154.710 Persons in charge: Designation and qualification.
154.730 Persons in charge: Evidence of designation.
154.740 Records.
154.750 Compliance with operational manual.

AUTHORITY: The provisions of this Part 154 issued under section 311(j)(1)(C) of the Federal Water Pollution Control Act (86 Stat. 816, 868); 33 U.S.C. 1321(j)(1)(C); E.O. 11735, 3 CFR, 1966–1970 COMP., p. 949; 49 CFR 1.46(m).

Subpart A—General

§ 154.100 Applicability.

(a) Except as provided in paragraphs (b) and (c), this part applies to each facility that transfers oil in bulk to or from any vessel or public vessel with a capacity of 250 or more barrels of that oil.

(b) This part does not apply to a facility in a caretaker status (one that is not operational or not capable of conducting transfer operations).

(c) This part does not apply to a marina (a facility that service primarily pleasure craft) unless it is transferring oil in bulk to or from any vessel or public vessel with a capacity of 250 or more barrels of that oil.

§ 154.105 Definitions.

As used in this part:

"Barrel" means the unit of liquid measure equivalent to 42 U.S. gallons at 60° Fahrenheit.

"Captain of the Port" (COTP) means the U.S. Coast Guard officer commanding a Captain of the Port Area described in Part 3 of this chapter, or his authorized representative, or where there is no Captain of the Port Area, a District Commander of a Coast Guard District described in Part 3 of this Chapter, or his authorized representative.

"Commandant' means the Commandant of the Coast Guard or his authorized representative.

"Discharge" includes but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

"District Commander" means the officer of the Coast Guard designated by the Commandant to command a Coast Guard District, as described in Part 3 of this chapter or his authorized representative.

"Facility" means either an onshore facility or an offshore facility and includes, but is not limited to, structures, equipment, and appurtenances thereto, used or capable of being used to transfer oil to or from a vessel or a public vessel. A facility includes federal, state, municipal, and private facilities.

"Facility operator" means the person who owns, operates, or is responsible for the operation of the facility.

"Incompatible products" means products that, when mixed, create a hazard, such as spontaneous combustion or energy release or form a product that is hazardous to health.

"Mobile facility" means any facility that can readily change location, such as a tank truck or tank car, other than a vessel or public vessel.

"Monitoring device" means any sensing device used to monitor the waters for a discharge of oil, within or around a facility, and designed to notify operating personnel of a discharge of oil.

"Officer in Charge, Marine Inspection" (OCMI) means the U.S. Coast Guard officer commanding a Marine Inspection Zone described in Part 3 of this chapter, or his authorized representative.

"Offshore facility" means any facility of any kind located in, on, or under any of the navigable waters of the United States other than a vessel or a public vessel.

"Oil" means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. For the purposes of this part liquefied natural gas and liquefied petroleum gas (LNG and LPG) are excluded.

"Onshore facility" means any facility (including, but not limited to, mobile facilities) of any kind located in, on, or under any land within the United States, other than submerged land.

"Person" includes an individual, firm, corporation, association, and partnership.

"Person in charge" means an individual designated as a person in charge of oil transfer operations under § 154.710 or 155.700 of this chapter.

"Public vessel" means a vessel owned or bare-boat chartered and operated by the United States, or by a state or political subdivision thereof, or by a foreign nation, except when such a vessel is engaged in commerce.

"Tank vessel" means any vessel that carries or is capable of carrying liquid bulk cargo in tanks.

"Vessel" means every description of watercraft or other artificial contrivance, whether U.S. or foreign, used or capable of being used as a means of transportation on water, other than a public vessel.

§ 154.107 Alternatives.

(a) The COTP may consider and approve alternative procedures, methods, or equipment standards to be used by a facility operator in lieu of any requirements in this part if—

(1) The facility operator submits a written request for the alternative at least 30 days before operations under the alternative are proposed, unless the COTP authorizes a shorter time; and

(2) The alternative provides an equivalent level of protection from pollution by oil.

(b) The COTP approves or disapproves any alternative requested, either in writing, or orally followed up in writing.

§ 154.108 Exemptions.

(a) The Commandant may grant an exemption or partial exemption from compliance with any requirement in this part if—

(1) The facility operator submits an application for the exemption to the Commandant via the COTP at least 30 days before operations under the exemption are proposed, unless the COTP authorizes a shorter time; and

(2) The Commandant determines from the application that—

(i) Compliance with the requirement is economically or physically impractical;

(ii) No alternative procedures, methods, or equipment standards exist that would provide an equivalent level of protection from pollution by oil; and

(iii) The likelihood of oil being discharged as a result of the exemption is minimal.

(b) In making the determinations in paragraph (a), the Commandant may require—

(1) Any appropriate information, including an environmental and economic assessment of the effects of and reasons for the exemption; and

(2) Procedures, methods, or equipment standards, even though they may provide less than an equivalent level of protection from pollution by oil.

(c) The Commandant grants or denies an exemption in writing.

§ 154.110 Letter of intent.

(a) The facility operator of any facility to which this part applies must submit a letter of intent to operate a facility or to conduct mobile facility operations to the COTP not less than 60 days before the intended operations unless a shorter period is allowed by the COTP.

(b) The letter of intent required by paragraph (a) may be in any form but must contain—

(1) The name, address, and telephone number of the facility operator;

(2) The name, address, and telephone number of the facility or, in the case of a mobile facility, the dispatching office; and

(3) Except for a mobile facility, the geographical location of the facility in relation to the associated body of navigable waters.

(c) The facility operator of any facility for which a letter of intent has been submitted, shall immediately advise the COTP in writing of any changes of information that are different from the letter and shall cancel, in writing, the letter for any facility at which oil transfer operations are no longer conducted.

§ 154.120 Facility inspections.

(a) The facility operator shall allow the Commandant, at any time, to make any inspection and shall perform, upon request, any test to determine compliance with the Federal Water Pollution Control Act and this part. The facility operator shall conduct all required testing of facility equipment in a manner acceptable to the Commandant.

(b) The COTP provides the facility operator with a written report of the results of the inspection for the record required by §154.740(e) and lists the deficiencies in the report when the facility is not in compliance with the requirements in this part and Part 156 of this chapter.

Subpart B—Operations Manual

§ 154.300 Operations manual: general.

(a) The facility operator of each facility to which this part applies must submit, with his letter of intent, an operations manual that:

(1) Describes how the applicant meets the operating rules and equipment requirements prescribed by this part and Part 156 of this chapter;

(2) Describes the responsibilities of personnel under this part and Part 156 of this chapter in conducting oil transfer operations; and

(3) Includes translations into a language or languages understood by facility personnel on duty for transfer operations.

(b) The facility operator shall maintain the operations manual so that it is:

(1) Current; and

(2) Readily available for inspection by the COTP.

(c) The COTP reviews the operations manual when submitted and biennially thereafter.

(d) In determining whether the manual meets the requirements of this part and part 156 of this chapter the COTP considers the size, complexity, and capacity of the facility.

(e) If the manual meets the requirements of this part and part 156 of this chapter, the COTP issues a "letter of adequacy" as described in § 154.325.

(f) The facility operator shall ensure that a sufficient number of copies of the operations manual, including a sufficient number of the translations required by paragraph (a)(3), are available so that each person in charge has a copy when he is conducting an oil transfer operation.

NOTE.—The facility operator may request that the contents of the operations manual be considered commercial or financial information that is privileged or confidential. Under the Freedom of Information Act, the Coast Guard would withhold any part of the

contents of the operations manual from public disclosure upon determining that it is commercial or financial information that is privileged or confidential.

§ 154.310 Operations manual: contents.

(a) Each operations manual required by § 154.300 must contain, in the order listed:

(1) The geographic location of the facility;

(2) A physical description of the facility including a plan of the facility showing mooring areas, transfer locations, control stations, and locations of safety equipment;

(3) The hours of operation of the facility;

(4) The sizes, types, and number of vessels that the facility can transfer oil to or from simultaneously;

(5) The number and location of operations manuals for use by transfer personnel;

(6) For each product transferred at the facility:

(i) Grade and trade name; and

(ii) Cargo information as described in 46 CFR 151.45–2(e)(3);

(7) The grade and trade name of each product transferred at the facility that is incompatible with oil;

(8) The minimum number of persons on duty during transfer operations and their duties;

(9) The names and telephone numbers of facility, Coast Guard, and other personnel who may be called by the employees of the facility in an emergency;

(10) The duties of watchmen, required by § 155.810 of this chapter and 46 CFR 35.05–15, for unmanned vessels moored at the facility;

(11) A description of each communication system required by this part;

(12) The location and facilities of each personnel shelter, if any;

(13) A description and instructions for the use of drip and discharge collection and vessel slop reception facilities, if any;

(14) A description and the location of each emergency shutdown system;

(15) Quantity, types, locations, and instructions for use of monitoring devices required by § 154.525;

(16) Quantity, type, location, and instructions for use of the containment equipment required by § 154.545;

(17) Quantity, type, location, and instructions for use of fire extinguishing equipment required by § 126.15(j) of this chapter;

(18) The maximum relief valve setting (or maximum system pressure when relief valves are not provided) for each oil transfer system;

(19) Procedures for:

(i) Operating each loading arm including the limitations of each loading arm;

(ii) Transferring oil;

(iii) Completion of pumping; and

(iv) Emergencies;

(20) A contingency plan for reporting and containing oil discharges;

(21) A brief summary of applicable federal, state, and local oil pollution laws and regulations;

(22) The time limits for gaining access to containment material and equipment established by § 154.545; and

(23) Procedures for shielding portable lighting authorized by the COTP under § 154.570(c); and

(24) A description of the training and qualification program for persons in charge.

(b) The facility operator shall place the letter of adequacy when issued in the front of the operations manual and shall place exemptions or alternatives granted immediately after it.

(c) The facility operator shall incorporate each amendment to the operations manual under § 154.320 in the manual with the related existing requirement, or add the amendment at the end of the manual if not related to an existing requirement.

§ 154.320 Operations manual: amendment.

(a) The COTP requires the facility operator to amend the operations manual if the COTP finds that the operations manual does not meet the requirements in this part using the following procedures:

(1) The COTP notifies the facility operator in writing of the proposed amendment and a date not less than 14 days after the notification, on or before which the facility operator may submit written information, views, and arguments on the proposed amendment. After considering all relevent material presented, the COTP notifies the facility operator of any amendment required or of his decision to rescind the notice. The amendment becomes effective 30 days after the date of that notice unless the facility operator petitions the Commandant to reconsider the notice, in which case its effective date is stayed pending a decision by the Commandant. Petitions to the Commandant must be submitted in writing to the COTP.

(2) If the COTP finds that there is a condition requiring immediate action to prevent the discharge or risk of discharge of oil that makes the procedure in paragraph (a)(1) of this section impractical or contrary to the public interest, he may issue an amendment effective on the date the facility operator receives notice of it. In such a case, the COTP includes a brief statement of the reasons for his findings in the notice, and the owner or operator may petition the Commandant to reconsider the amendment. The petition does not stay the amendment.

(b) The facility operator may amend the operations manual by:

(1) Submitting proposed amendments and reasons for the amendments to the COTP not less than 30 days before the requested date of the proposed amendment; or

(2) If an immediate amendment is needed, requesting the COTP to approve the amendment immediately.

(c) The COTP responds to proposed amendments submitted under paragraph (b) of this section by:

(1) Approving or disapproving the proposed amendments;

(2) Advising the facility operator whether the request is approved in writing before the requested date of the amendments;

(3) Including any reasons in the written response if the request is disapproved; and

(4) If the request is made under paragraph (b)(2) of this section, immediately approving or rejecting the request.

§ 154.325 Operations manual: letter of adequacy.

(a) The letter of adequacy is a letter, from the COTP to the facility operator, certifying that the operations manual meets the requirements of this part.

(b) No person may use an operations manual for oil transfer operations, as required by § 156.120(t)(2), (t)(3), and (u)(2) of this chapter, unless the facility operator has a valid letter of adequacy for the operations manual.

(c) The requirement in paragraph (b) for a valid letter of adequacy is effective on (date two years after effective date of the final rule) or upon issuance to a facility operator of his first letter of adequacy, whichever is earlier.

(d) The letter of adequacy is invalid if the facility operator:

(1) Amends the operations manual without following the procedures in § 154.320; or

(2) Fails to amend the operations manual when required by the COTP.

Subpart C—Equipment Requirements

§ 154.500 Hose assemblies.

Each hose assembly used for transferring oil must meet the following requirements:

(a) The minimum bursting pressure for each hose assembly must be:

(1) 600 pounds or more per square inch; and

(2) At least four times the pressure of the relief valve setting (or four times the maximum pump pressure when no relief valve is installed) plus the static head pressure of the oil transfer system at the point where the hose is installed.

(b) The maximum allowable working pressure for each hose assembly must be:

(1) 150 pounds or more per square inch; and

(2) More than the pressure of the relief valve setting (or the maximum pump pressure when no valve is installed) plus the static head pressure of the oil transfer system at the point where the hose is installed.

(c) Each nonmetallic hose must be usable for oil service.

(d) Each hose assembly must have:

(1) Full threated connections;

(2) Flanges that meet standard B16.5, *Steel Pipe Flanges and Flange Fittings*, or standard B16.24, *Brass or Bronze Pipe Flanges*, of the American National Standards Institute (ANSI) [1], or

(3) Quick-connect couplings that are acceptable to the Commandant.

(e) Except as provided in paragraph (f) of this section, each hose must be marked with—

(1) Product and grade for which the hose may be used;

(2) Maximum allowable working pressure;
(3) Date of manufacture;
(4) Date of the latest test required by § 156.170 of this chapter; and
(5) The pressure used for that test.

(f) The information required by paragraphs (e)(3) through (e)(5) of this section need not be marked on the hose if it is recorded elsewhere at the facility and the hose is marked to idenify it with that information.

(g) The hose burst pressure may not be marked on the hose and must be recorded elsewhere at the facility as described in paragraph (f) of this section.

(h) Each hose used to transfer oil for fuel to a vessel that has a fill pipe for which containment can not practically be provided must be equipped with an automatic back pressure shutoff nozzle.

NOTE.—American National Standards Institute (ANSI) standards are published by and may be obtained from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017.

§ 154.510 Loading arms.

(a) Each mechanical loading arm used for transferring oil must meet the design, fabrication, material, inspection, and testing requirements in ANSI Standard B31.3, *Petroleum Refinery Piping* (see Note § 154.500).

(b) The manufacturer's certification that the standard in paragraph (a) of this section has been met must be permanently marked on the loading arm or recorded elsewhere at the facility with the loading arm marked to identify it with that information.

(c) Each mechanical loading arm used for transferring oil must have a means of being drained or closed before disconnecting after transfer of oil.

§ 154.520 Closure devices.

The facility must have enough butterfly valves, wafer-type resilient seated valves, blank flanges, or other means acceptable to the COTP to blank off each end of each hose or loading arm that is not connected for the transfer of oil.

§ 154.525 Monitoring devices.

The COTP may require the facility to install monitoring devices if—

(a) The environmental sensitivity of the area requires added protection;
(b) The products transferred at the facility pose a significant threat to the environment;
(c) The size or complexity of the transfer operation poses a significant potential for a discharge of oil; or
(d) The installation of monitoring devices at the facility would significantly decrease the likelihood or the size of a discharge of oil.

§ 154.530 Small discharge containment.

(a) Except as provided in paragraphs (c) and (d) of this section, the facility must have fixed catchments, curbing, or other fixed means to contain oil discharged in at least—

(1) Each hose handling and loading arm area (that area on the facility that is within the area traversed by the free end of the hose or loading arm when moved from its normal stowed or idle position into a position for connection); and
(2) Each hose connection manifold area.

(b) The discharge containment means required by paragraph (a) of this section must hold at least—

(1) Two barrels if it serves one or more hoses of 6-inch inside diameter or smaller, or loading arms of 6-inch nominal pipe size diameter or smaller;
(2) Three barrels if it serves one or more hoses larger than 6-inch inside diameter, or loading arms larger than 6-inch nominal pipe size diameter, but less than 12-inch diameter; or
(3) Four barrels if it serves one or more hoses of 12-inch inside diameter or larger, or loading arms of 12-inch nominal pipe size diameter or larger.

(c) The facility may use portable means of not less than ½ barrel capacity each to meet the requirements of paragraph (a) of this section for part or all of the facility if the COTP finds that fixed means to contain oil discharges are not feasible.

(d) A mobile facility may have portable means of not less than five gallons capacity to meet the requirements of paragraph (a) of this section.

§ 154.540 Discharge removal.

The facility must have a means to safely and quickly remove discharged oil from the containment means required by § 154.530 without mixing incompatible products or discharging the oil into the water.

§ 154.545 Discharge containment equipment.

(a) Each facility must have ready access to enough oil containment material and equipment to contain any oil discharged on the water.

(b) For the purpose of this section, "access" may be by direct ownership, joint ownership, cooperative venture, or contractual agreement.

(c) Each facility must establish time limits, subject to approval by the COTP, for deployment of the containment material and equipment required by paragraph (a) of this section considering—

(1) Oil handling rates;
(2) Oil capacity susceptible to being spilled;
(3) Frequency of facility operations;
(4) Tidal and current conditions;
(5) Facility age, and configuration; and
(6) Past record of discharges.

(d) The COTP may require the facility to surround each vessel conducting an oil transfer operation with oil containment material before commencing the oil transfer operation if—

(1) The environmental sensitivity of the area requires the added protection;
(2) The products transferred at the facility pose a significant threat to the environment;
(3) The past record of discharges at the facility is poor;
(4) The size or complexity of the transfer operation poses a significant potential for a discharge of oil; or
(5) The current in the area is such that this action would provide the only chance of containing any oil discharged.

§ 154.550 Emergency shutdown.

(a) The facility must have an emergency means to enable the person-in-charge of the transfer of oil on board the vessel, at his usual operating station, to stop the flow of oil from the facility to the vessel. This means must be—

(1) An electrical, pneumatic, or mechanical linkage to the facility; or
(2) An electronic voice commuications system continuously manned by a person on the facility who can remotely stop the flow of oil immediately.

(b) The point in the oil transfer system at which the emergency means stops the flow of oil on the facility must be located near the dock manifold connection to minimize the loss of oil in the event of the rupture or failure of the—

(1) Hose;
(2) Loading arm; or
(3) Manifold valve.

(c) The means required by paragraph (a) of this section must be able to stop the flow of oil in—

(1) 60 seconds on a facility constructed before (date one day after effective date of the final rule); and
(2) 30 seconds on a facility constructed after (effective date of the final rule).

§ 154.560 Communications.

(a) Each facility must have a means that enables continuous two-way voice communication between the person in charge of the vessel transfer operation and the person in charge of the facility transfer operation.

(b) Each facility must have a means, which may be the communications system itself, that enables a person on board a vessel or on the facility to effectively indicate his desire to use the means of communication required by paragraph (a) of this section.

(c) The means required by paragraph (a) of this section must be usable and effective in all phases of the transfer operation and all conditions of weather at the facility.

(d) The facility may use the system in § 154.550(a)(2) to meet the requirement of paragraph (a) of this section.

(e) Portable radio devices used to comply with paragraph (a) of this section must meet U.L. Class I, Group D requirements or their equivalent (intrinsically safe, as defined in 46 CFR 111.80) during transfers of flammable liquids, as defined in 46 CFR 30.10.

§ 154.570 Lighting.

(a) Except as provided in paragraph (c) of this section, for operations between sunset and sunrise, the facility

must have fixed lighting that adequately illuminates—

(1) Each transfer connection point on the facility;

(2) Each transfer connection point in use on any barge moored at the facility to or from which oil is being transferred;

(3) Each oil transfer operations work area on the facility; and

(4) Each oil transfer operations work area on any barge moored at the facility to or from which oil is being transferred.

(b) Where the illumination is apparently inadequate, the COTP may require verification by instrument of the levels of illumination. On a horizontal plane 3 feet above the barge deck or walking surface, illumination must measure at least—

(1) 2.5 foot candles at transfer connection points; and

(2) 0.5 foot candles in oil transfer operations work areas.

(c) For small or remote facilities, the COTP may authorize operations with an adequate level of illumination provided by the vessel or by portable means.

(d) Lighting must be located or shielded so as not to interfere with navigation on the adjacent waterways.

Subpart D—Facility Operations

§ 154.700 General.

No person may operate a facility unless the equipment, personnel, and operating procedures of that facility meet the requirements of this part.

§ 154.710 Persons in charge: designation and qualification.

No person may serve, and no facility operator may use the services of a person, as person in charge of any facility oil transfer operation unless—

(a) The facility operator has designated that person as a person in charge and has advised the COTP in writing of his designation;

(b) The person has had at least 48 hours of experience at a facility in oil transfer operations to which this part applies;

(c) The person has enough experience at the facility for which qualification is desired to enable the facility operator to determine that this experience is adequate and that he can operate the oil transfer equipment of the facility, except that, for new facilities, the COTP may authorize alternative experience requirements; and

(d) The facility operator has determined that the person knows—

(1) The hazards of each product transferred;

(2) The rules in this part and in Part 156 of this chapter;

(3) The facility operating procedures as described in the operations manual;

(4) Vessel oil transfer systems; in general;

(5) Vessel oil transfer control systems, in general;

(6) Each facility oil transfer control system used;

(7) Local discharge reporting procedures; and

(8) The facility's contingency plan for discharge reporting and containment.

§ 154.730 Person in charge: evidence of designation.

Each person in charge must carry evidence of his designation as a person in charge when he is engaged in transfer operations unless such evidence is immediately available at the facility.

§ 154.740 Records.

Each facility operator must keep at the facility and make available for inspection by the COTP—

(a) A copy of the letter of intent for the facility;

(b) The name of each person currently designated as a person in charge of oil transfer operations at the facility;

(c) The date and result of the most recent test or inspection of each item tested or inspected under § 156.170 of this chapter;

(d) The hose information required by § 154.500 (e) and (g) except that marked on the hose;

(e) The record of each inspection of the facility by the COTP; and

(f) The Declaration of Inspection required by § 156.150(f) of this chapter.

§ 154.750 Compliance with operations manual.

The facility operator must use and require facility personnel to use the procedures in the operations manual prescribed by § 154.300 for operations under this part.

PART 155—VESSEL DESIGN AND OPERATIONS

Subpart A—General

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APPENDIX A—Specifications for shore connection.

AUTHORITY: The provisions of this Part 155 issued under section 311(j)(1) (C) and (D) of the Federal Water Pollution Control Act (86 Stat. 816,868); 33 U.S.C. 1321(j)(1) (C) and (D); E.O. 11735, 3 CFR, 1966–1970 COMP., p. 949; 49 CFR 1.46(m).

Subpart A—General

§ 155.100 Applicability.

This part prescribes rules that apply to the operation of vessels on the navigable waters and contiguous zone of the United States for the purpose of preventing the discharge of oil into or upon the navigable waters or contiguous zone of the United States. U.S. vessels must meet the vessel design and equipment requirements in this part to be eligible for the issuance of a Certificate of Inspection under 46 CFR Ch. I.

§ 155.105 Definitions.

As used in this part:

"Barrel" means the unit of liquid measure equivalent to 42 U.S. gallons at 60° Fahrenheit.

"Captain of the Port" (COTP) means the U.S. Coast Guard officer commanding a Captain of the Port area described in Part 3 of this chapter, or his authorized representative or, where there is no Captain of the Port area, a District Commander of a Coast Guard District described in Part 3 of this chapter, or his authorized representative.

"Commandant" means the Commandant of the U.S. Coast Guard or his authorized representative.

"Contiguous zone" means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone, but not extending beyond 12 miles from the baseline from which the breadth of the territorial sea is measured.

"Discharge" includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

"District Commander" means the officer of the Coast Guard designated by the Commandant to command a Coast Guard District as described in Part 3, of this chapter or his authorized representative.

"Facility" means either an onshore facility or an offshore facility and includes, but is not limited to, structures, equipment and appurtenances thereto, used or capable of being used to transfer oil to or from a vessel or a public vessel. A facility includes federal, state, municipal, and private facilities.

"Incompatible products" means products that, when mixed, create a hazard such as spontaneous combustion or energy release or form a product that is hazardous to health.

"Mobile facility" means any facility that can readily change location, such as a tank car or tank truck, other than a vessel or public vessel.

"Officer in Charge, Marine Inspection" (OCMI) means the U.S. Coast Guard officer commanding a Marine Inspection Zone described in Part 3 of this chapter, or his authorized representative.

"Offshore facility" means any facility of ayn kind located in, on, or under any of the navigable waters of the United States other than a vessel or a public vessel.

"Oil" means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. For the purpose of this part liquefied natural gas and liquefied petroleum gas (LNG and LPG) are excluded.

"Onshore facility" means any facility (including but not limited to, a mobile facility) of any kind located in, on, or under any land within the United States other than submerged land.

"Person" includes an individual, firm, corporation, association, and partnership.

"Person in Charge" means an individual designated as a person in charge of oil transfer operation under §§ 154.710 or 155.700 of this chapter.

"Public vessel" means a vessel owned or bare-boat chartered and operated by the United States, or by a State or political subdivision thereof, or by a foreign nation, except when such a vessel is engaged in commerce.

"Tank vessel" means any vessel that carries or is capable of carrying liquid bulk cargo in tanks.

"Tank barge" means any tank vessel not equipped with a means of self-propulsion.

"U.S. vessel" means a vessel that is owned, documented, or registered in the United States and that is not a public vessel.

"Vessel" means every description of watercraft or other artificial contrivance, whether U.S. or foreign, used or capable of being used as a means of transportation on water, other than a public vessel.

"Vessel operator" means a person who owns, operates, or is responsible for the operation of a vessel.

§ 155.107 Alternatives.

(a) The COTP or OCMI may consider and approve alternative procedures, methods, or equipment standards to be used by a vessel operator in lieu of any requirements in this part if—

(1) The vessel operator submits a written request for the alternative to be considered at least 30 days before operations under the alternative are proposed, unless the COTP authorizes a shorter time; and

(2) The alternative provides an equivalent level of protection from pollution by oil.

(b) The COTP or OCMI approves or disapproves any alternative requested, either in writing, or orally followed up in writing.

§ 155.110 Exemptions.

(a) The Commandant may grant an exemption or partial exemption from compliance with any requirement in this part if—

(1) The vessel operator submits an application for exemption to the Commandant via the COTP or OCMI 30 days before operations under the exemption are proposed unless the COTP or OCMI authorizes a shorter time; and

(2) The Commandant determines from the application that—

(i) Compliance with a specific requirement is economically or physically impractical;

(ii) No alternative procedures, methods, or equipment standards exist that would provide an equivalent level of protection from pollution by oil; and

(iii) The likelihood of oil being discharged as a result of the exemption is minimal.

(b) In making the determinations in paragraph (a) of this section, the Commandant may require—

(1) Any appropriate information, including an environmental and economic assessment of the effects of and reasons for the exemption; and

(2) Procedures, methods, or equipment standards, even though they may provide less than an equivalent level of protection from pollution by oil.

(c) The Commandant grants or denies an exemption in writing.

Subpart B—Vessel Design and Equipment

§ 155.310 Cargo oil discharge containment.

(a) No person may operate a tank vessel with a capacity of 250 or more barrels of oil as cargo that is carrying oil unless the vessel has—

(1) Under or around each oil loading manifold and each oil transfer connection point, a fixed container or enclosed deck area that holds, in all conditions of vessel list or trim encountered during the loading operation, at least—

(i) One half barrel if it serves one or more hoses of 2-inch inside diameter or smaller, or loading arms of 2-inch nominal pipe size diameter or smaller;

(ii) One barrel if it serves one or more hoses larger than 2-inch inside diameter, or loading arms larger than 2-inch nominal pipe size diameter, but less than 4-inch diameter;

(iii) Two barrels if it serves one or more hoses of 4-inch inside diameter or larger, or loading arms of 4-inch nominal pipe size diameter or larger, but less than 6-inch diameter;

(iv) Three barrels if it serves one or mores hoses of 6-inch inside diameter or larger, or loading arms of 6-inch nominal pipe size diameter or larger, but less than 12-inch diameter; or

(v) Four barrels if it serves one or more hoses of 12-inch inside diameter or larger or loading arms of 12-inch nominal pipe size diameter or larger.

(2) A means of draining or removing discharged oil from each container or enclosed deck area without mixing incompatible products or discharging the oil into the water; and

(3) A mechanical means of closing each drain and scupper in the container or enclosed deck area required by this section.

(b) No person may operate a tank barge with a capacity of 250 or more barrels of oil as cargo that is carrying oil unless the vessel meets paragraph (a) of this section or is equipped with—

(1) A coaming, at least 4 inches high but not more than 8 inches high, enclosing the immediate area of the cargo hatches, oil loading manifolds, and transfer connections, that holds at least one-half barrel per hatch, manifold, and connection within the enclosed area; and

(2) A container, under each oil loading manifold and each oil transfer connection within the coaming, that holds at least one-half barrel.

§ 155.320 Fuel oil discharge containment.

No person on a vessel of 100 or more gross tons may transfer oil for fuel to that vessel unless—

(a) For a vessel of 300 gross tons or more constructed after June 30, 1974, the vessel has a fixed container or enclosed deck area under or around each fuel tank vent, overflow, and fill pipe, that holds at least—

(1) One-half barrel for a vessel of 300 gross tons but less than 1600 gross tons; or

(2) One barrel for a vessel of 1600 gross tons or more.

(b) For a vessel of 100 gross tons but less than 300 gross tons constructed after June 30, 1974, and for any vessel of 100 or more gross tons constructed before July 1, 1974—

(1) The vessel meets paragraph (a) (1) of this section;

(2) Each fuel tank vent, overflow, and fill pipe is equipped with a container that has at least a 5 U.S. gallon capacity; or

(3) If the vessel has a fill fitting for which containment can not practically be provided, an automatic back pressure shut-off nozzle is used.

§ 155.330 Bilge and fuel ballast pumping, piping, separation and discharge arrangements: Vessels of 100 or more gross tons.

(a) No person may operate a vessel of 100 or more gross tons that has main or auxiliary machinery spaces or that ballasts fuel oil tanks unless the vessel has a fixed piping system.

(b) The fixed piping system must have the following:

(1) Piping through which oily residues, from the separation of oily mixtures from machinery space bilges and fuel and lubricating oil tanks, can be

transferred to the oil residue tank required by § 155.340.

(2) Discharge points through which oily residues can be discharged to a facility. These discharge points must—

(i) Be on each side of the weather deck;

(ii) Each have a shore connection or portable adapter meeting the specifications in appendix A to this part;

(iii) Each have a stop valve; and

(iv) Each have a means on the weather deck adjacent to them to stop the pump required by paragraph (b)(3) of this section.

(3) An installed pump and piping that can transfer oily residues from the oil residue tank required by § 155.340 to the discharge points required by paragraph (b)(2) of this section.

(4) For each bilge pump, the means to discharge to the oil residue tank required by § 155.340.

(5) For each discharge point through which oily mixtures are discharged overboard—

(i) A sample point as described in 46 CFR 162.050–17(e) that is located in a vertical section of piping inboard of the discharge point; and

(ii) A stop valve.

(6) An installed 15 parts per million (p.p.m.) oil-water separator, approved under paragraph (d) of this section, that has its separated oil outlet connected to the oil residue tank required by § 155.340, except as otherwise provided by paragraph (c) of this section.

(7) An installed bilge alarm or bilge monitor, approved under paragraph (d) of this section, that can actuate the stop valve required by paragraph (b)(5)(ii) of this section, to prevent an oily mixture from the oil-water separator exceeding 15 p.p.m. from being discharged overboard.

(8) For each pump that supplies influent to an oil-water separator in the piping system, a maximum delivery capacity equal to or less than the maximum design throughput of the separator, except that the maximum delivery capacity may be one-and-one-half times the maximum design throughput of the separator if the pump has an orifice plate that permanently restricts its flow rate to the maximum design throughput of the separator.

(c) A person may operate a vessel of 100 or more gross tons equipped with an installed oily mixture settling system instead of the 15 p.p.m. oil-water separator required by paragraph (b)(6) of this section if—

(1) The vessel has a tank that can receive all oily mixtures from machinery space bilges and fuel and lubricating oil tanks;

(2) The tank is equipped with an oil-water interface detector; and

(3) The system is acceptable to the Commandant (procedures to be proposed).

(d) Each separator, bilge alarm and bilge monitor installed on a vessel after April 1, 1980, must be approved by the Coast Guard under 46 CFR 162.050.

(e) Paragraphs (b)(1) and (b)(4) through (b)(8) of this section are effective on (date 2 years after effective date of the final rule), or at the vessel's first shipyard maintenance and repair availability after (date 6 months after effective date of the final rule), whichever is earlier.

§ 155.340 Oil residue tank: vessels of 100 or more gross tons.

No person may operate a vessel of 100 or more gross tons that has main or auxiliary machinery spaces or that ballasts fuel oil tanks unless the vessel has a tank that can receive and hold all oily residues resulting from separation of oily mixtures from machinery space bilges and fuel and lubricating oil tanks.

§ 155.350 Bilge and ballast pumping arrangements: vessels of less than 100 gross tons.

(a) No person may operate a vessel of less than 100 gross tons that has main or auxiliary machinery spaces or that ballasts fuel oil tanks unless it can transfer oily bilge slops and oily ballast to a reception facility.

(b) Paragraph (a) of this section does not prohibit the discharge of an oily mixture in accordance with § 155.410.

§ 155.360 Exception for vessels of less than 1600 gross tons.

Paragraph 155.330(b)(2)(i) does not apply to a vessel of less than 1600 gross tons that has at least one discharge point accessible from the weather deck.

§ 155.370 Exception for uninspected U.S. vessels and all other vessels not in ocean or coastwise service.

Paragraph 155.330(b)(2)(ii) does not apply to a vessel that has shore connections or portable adapters that fit the connections at any facility to which the vessel transfers oily residues if the vessel is—

(a) An uninspected U.S. vessel; or

(b) A vessel not in ocean or coastwise service.

§ 155.380 Exception for vessels that have a means onboard to consume all oily residues.

Paragraphs 155.330 (b)(2) and (b)(3) do not apply to a vessel that has an installed means to consume all oily residues and that can transfer oily residues to a facility by any means.

§ 155.390 Exception for tank vessels: oily waste transfer equipment.

Section 155.330 does not apply to tank vessels that combine all other oily mixtures with oily cargo residues for transfer and discharge in accordance with the requirements of Part 157 of this chapter.

§ 155.400 Fixed piping system information.

(a) No person may operate a vessel unless the instruction manual for the automatic and manual operation of the fixed piping system required by § 155.330 and the instruction manual for each oil-water separator, oily mixture settling system, bilge alarm and bilge monitor are on board the vessel.

(b) Each oil-water separator, oily mixture settling system, bilge monitor, and bilge alarm on board a vessel must be maintained and operated in accordance with its instruction manual.

§ 155.410 Discharge of oily mixtures.

(a) No vessel operator may discharge an oily mixture, from a machinery space bilge or a fuel oil tank that carries ballast, into the water unless—

(1) The discharge is through a properly operating—

(i) 15 p.p.m. oil-water separator and bilge alarm;

(ii) 15 p.p.m. oil-water separator and bilge monitor; or

(iii) Oily mixture settling system acceptable to the Commandant under § 155.330(c) with bilge alarm or bilge monitor; and

(2) The discharge meets the requirements of 40 CFR 110.3 and 110.4.

(b) No vessel operator of a U.S. vessel may discharge an oily mixture, from a machinery space bilge or a fuel oil tank that carries ballast, into any waters more than 12 miles from the nearest land unless—

(1) The discharge is through a properly operating—

(i) 100 p.p.m. oil-water separator and bilge monitor;

(ii) 15 p.p.m. oil-water separator and bilge alarm;

(iii) 15 p.p.m. oil-water separator and bilge monitor; or

(iv) Oily mixture settling system acceptable to the Commandant under § 155.330(c) with bilge alarm or bilge monitor;

(2) The vessel is proceeding en route; and

(3) The discharge has an oil content of 100 p.p.m. or less.

(c) No vessel operator may discharge an oily mixture, from a cargo pump room bilge or a cargo tank, into the water except as permitted under Part 157 of this chapter.

(d) Paragraphs (a) and (b) of this section become effective on (date two years after effective date of the final rule), or upon compliance with § 155.330 (b)(1) and (b)(4) through (b)(8), whichever is earlier.

§ 155.440 Placard.

(a) No person may operate a vessel, except a vessel less than 26 feet in length, unless it has a placard at least 5 by 8 inches, made of durable material, fixed in a conspicuous place in each machinery space, or at the bilge and ballast pump control station, stating the following:

DISCHARGE OF OIL PROHIBITED

The Federal Water Pollution Control Act prohibits the discharge of oil or oily waste into or upon the navigable waters of the United States or the waters of the contiguous zone if such discharge causes a film or sheen upon or discoloration of the surface of the water or causes a sludge or emulsion beneath the surface of the water. Violators are subject to a penalty of $5,000.

(b) The placard required by paragraph (a) of this section must be printed in a language or languages understood by the crew.

§ 155.470 Prohibited oil spaces.

(a) Except as provided in paragraphs (b) and (c) of this section, no person may operate a self-propelled vessel of 300 or more gross tons carrying bulk oil or oily waste in any space forward of a collision bulkhead.

(b) Fuel for use on a vessel constructed after June 30, 1974, may be carried in tanks forward of a collision bulkhead if such tanks are at least 24 inches inboard of the hull structure.

(c) Fuel for use on a vessel constructed before July 1, 1974, may be carried in tanks forward of a collision bulkhead if those tanks were designated, installed, or constructed for fuel oil carriage before July 1, 1974.

Subpart C—Oil Transfer Personnel Procedures, Equipment, and Records

§ 155.700 Designation of person in charge.

The vessel operator, or his agent, of each vessel that has a capacity for 250 or more barrels of oil shall designate the person or persons in charge of each transfer of oil to or from the vessel, and of each tank cleaning operation.

§ 155.710 Qualifications of person in charge.

(a) The person in charge of oil transfer operations on a tank ship, as defined in 46 CFR 30.10–67, must—

(1) Be designated as person in charge by the master;

(2) Hold a license authorizing service as a deck officer aboard the tankship;

(3) Hold the appropriate endorsement under 46 CFR 10.11 for the grade of product being transferred; and

(4) Have served during the preceding 12 months aboard the tankship or another tankship built to the same basic plans and having the same cargo containment, control, and monitoring systems.

(b) The service required in paragraph (a)(4) includes—

(1) Assisting the person in charge of the cargo transfer operation during at least two transfers of cargo; or

(2) Equivalent experience acceptable to the Officer in Charge, Marine Inspection.

(c) The person in charge of tank cleaning operations conducted at a tank cleaning facility must be a tankerman certificated for the grade of cargo last carried.

(d) The person in charge of oil transfer operations on a tank barge must be—

(1) A properly certified tankerman for the cargo being transferred; or

(2) A licensed officer with a tankerman endorsement for the cargo being transferred.

(e) The person in charge of oil transfer operations on a cargo and miscellaneous or passenger vessel must—

(1) Be designated as person in charge by the master;

(2) Hold a license authorizing service as an officer aboard the vessel; and

(3) Hold any tankerman endorsement including the "tankerman—flam. (restricted)" endorsement.

(f) The person in charge of bunker fuel oil transfer operations on cargo and miscellaneous, tank, and passenger vessels must have a valid license authorizing service as master, mate, or engineer on the vessel.

(g) The operator of an uninspected vessel of 100 gross tons or more shall instruct the person in charge of oil transfer operations in—

(1) The duties of the person in charge; and

(2) The federal water pollution laws and regulations that apply to the vessel.

(h) The person in charge of oil transfer operations on a foreign flag tankship, tank barge, cargo and miscellaneous vessel, or passenger vessel must have a license or certificate authorizing service as a master, mate, pilot, engineer, or operator on the vessel.

§ 155.720 Oil transfer procedures.

No person may operate a vessel that has a capacity for 250 or more barrels of oil unless the vessel has oil transfer procedures that meet the requirements of this part and Part 156 for—

(a) Transfers of oil to or from the vessel; and

(b) Transfers of oil from tank to tank within the vessel.

§ 155.730 Compliance with oil transfer procedures.

The vessel operator of each vessel required by § 155.720 to have oil transfer procedures shall maintain them current and shall use and require vessel personnel to use the oil transfer procedures for each oil transfer operation.

§ 155.740 Availability of oil transfer procedures.

The oil transfer procedures required by § 155.720 must be—

(a) Legibly printed in a language or languages understood by the crew;

(b) Permanently posted or available at a place where the procedures can be easily seen and used by members of the crew when engaged in oil transfer operations; and

(c) Available for inspection by the COTP or OCMI.

§ 155.750 Contents of oil transfer procedures.

(a) The oil transfer procedures required by § 155.720 must contain, in the order listed—

(1) A list of any incompatible products carried;

(2) A list of the products carried to which the oil transfer procedures apply, unless the procedures apply to all the products;

(3) A description of each oil transfer system on the vessel including—

(i) A line diagram of the vessel's oil transfer piping, including the location of each valve, pump, control device, vent, and overflow; and

(ii) The location of the shutoff valve or other isolation device that separates any bilge or ballast system from the oil transfer system;

(4) The number of persons required to be on duty during oil transfer operations;

(5) The duties by title of each officer, person in charge, tankerman, deckhand, and any other person required for each oil transfer operation;

(6) Procedures and duty assignments for tending the vessel's moorings during the transfer of oil;

(7) Procedures for operating the emergency shutdown and communications means required by §§ 155.780 and 155.785, respectively;

(8) Procedures for topping off tanks;

(9) Procedures for ensuring that all valves used during the oil transfer operations are closed upon completion of transfer;

(10) A description of the discharge containment system required by §§ 155.310 and 155.320;

(11) Procedures for emptying the discharge containment system required by §§ 155.310 and 155.320;

(12) Procedures for reporting oil discharges into the water;

(13) Procedures for shielding of portable lighting permitted by § 154.570(c) of this chapter;

(14) Procedures for securing the vessel openings required to be secured by § 155.815; and

(15) For each product transferred to or from the vessel:

(i) Grade and trade name; and

(ii) Cargo information as described in 46 CFR 151.45–2(e)(3).

(b) The vessel operator shall place exemptions or alternatives granted in the front of the oil transfer procedures.

(c) The vessel operator shall incorporate each amendment to the oil transfer procedures under § 155.760 in the procedures with the related existing requirement, or at the end of the procedures if not related to an existing requirement.

§ 155.760 Amendment of oil transfer procedures.

(a) The COTP or OCMI requires the vessel operator of any vessel that is required to have oil transfer procedures under § 155.720 to amend those procedures if the COTP or OCMI finds that the oil transfer procedures do not meet the requirements of this part.

(b) To require an amendment of an oil transfer procedure, the COTP or OCMI notifies the vessel operator in writing, of the proposed amendment and of a date not less than 14 days after the notification on or before which the vessel operator may submit written information, views, and arguments on the proposed amendment. After considering all relevant material presented, the COTP or OCMI notifies the operator of any amendment required or of his decision to rescind the notice. The amendment becomes effective 30 days after the date of that notice unless the operator petitions the Commandant to reconsider the notice, in which case its effective date is stayed pending a decision by the Commandant. Petitions to the Commandant must be submitted in writing to the COTP or OCMI.

(c) If the COTP or OCMI finds that there is a condition requiring immediate action to prevent the discharge or risk

of discharge of oil that makes the procedure in paragraph (b) of this section impractical or contrary to the public interest, he may issue an amendment effective on the date the vessel operator receives notice of it. In such a case, the COTP or OCMI includes a brief statement of the reasons for his finding in the notice, and the vessel operator may petition the Commandant, in any manner, to reconsider the amendment. The petition does not stay the amendment.

§ 155.770 Draining of oil.

No person may drain oil or oily waste from any source into the bilge of any vessel.

§ 155.780 Emergency shutdown.

(a) No person may operate a tank vessel with a capacity of 250 or more barrels of cargo oil that is carrying oil unless it has on board an emergency means to enable a person in charge of an oil transfer operation to stop the flow of oil to a facility, other vessel, or within the vessel.

(b) The means required in paragraph (a) of this section must be a pump control or a quick-acting, power actuated valve. If an emergency pump control is used, it must stop the flow of oil if oil could siphon through the stopped pump.

(c) The means required in paragraph (a) must be operable from the cargo deck, cargo control room, or the usual operating station of the person in charge of the oil transfer operation.

§ 155.785 Communications.

(a) During vessel to vessel oil transfers, each tank vessel with a capacity of 250 or more barrels of cargo oil that is carrying oil must have a means that enables continuous two-way voice communication between the persons in charge of the transfer operations on both vessels.

(b) Each vessel must have a means, which may be the communication system itself, that enables a person on board each vessel to effectively indicate his desire to use the means of communication required by paragraph (a) of this section.

(c) The means required by paragraph (a) of this section must be usable and effective in all phases of the transfer operation and all conditions of weather.

(d) Portable radio devices used to comply with paragraph (a) of this section must meet U.L. Class I, Group D requirements or their equivalent (intrinsically safe, as defined in 46 CFR 111.80) during transfers of flammable liquids, as defined in 46 CFR 30.10.

§ 155.790 Deck lighting.

(a) No person may operate a self-propelled vessel with a capacity of 250 or more barrels of oil that is transferring oil between sunset and sunrise unless the self-propelled vessel has installed deck lighting that adequately illuminates—

(1) Each transfer connection point on the vessel;

(2) Each transfer connection point in use on any barge moored to the vessel to or from which oil is being transferred;

(3) Each oil transfer operations work area on the vessel; and

(4) Each oil transfer operations work area on any barge moored to the vessel to or from which oil is being transferred.

(b) Where the illumination is apparently inadequate the OCMI or COTP may require verification by instrument of the levels of illumination. On a horizontal plane 3 feet above the deck the illumination must measure at least—

(1) 2.5 foot candles at transfer connection points; and

(2) 0.5 foot candle in oil transfer operations work areas.

(c) Lighting must be located or shielded so as not to interfere with navigation on the adjacent waterways.

§ 155.800 Oil transfer hoses.

No person may operate a U.S. vessel that carries hose used to transfer oil unless the hose meets the requirements of § 154.500 of this chapter.

§ 155.805 Closure devices.

Each vessel must have enough butterfly valves, wafer-type resilient seated valves, blank flanges, or other means acceptable to the COTP or the OCMI to blank off each end of each oil transfer hose that is not connected for the transfer of oil.

§ 155.810 Tank vessel security.

The vessel operator of each tank vessel that contains more oil than the normal clingage and unpumpable bilge or sump residues in any cargo tank shall maintain surveillance of that vessel by using a person who is responsible for the security of the vessel and for keeping unauthorized persons off the vessel.

§ 155.815 Vessel integrity.

No person may operate a vessel underway unless all closure mechanisms on the following openings are properly secured:

(a) Cargo hatches.

(b) Ullage openings.

(c) Sounding ports.

(d) Tank cleaning openings.

(e) Any other vessel openings that should be closed to maintain a seaworthy condition and to prevent the inadvertent release of oil in the event of a vessel accident.

§ 155.820 Records.

The vessel operator shall keep a written record available for inspection by the COTP or OCMI of—

(a) The name of each person currently designated as a person in charge of oil transfer operations as required by § 155.700;

(b) The date and result of the most recent test and inspection of each item tested or inspected as required by § 156.170 of this chapter;

(c) The hose information required by § 154.500 (e) and (g) of this chapter unless that information is marked on the hose; and

(d) The Declaration of Inspection as required by § 156.150(f) of this chapter.

APPENDIX A

SPECIFICATIONS FOR SHORE CONNECTION

[See § 155.330]

Item, Description, and Dimension

1—Outside diameter: 215 mm. (8½ in.).
2—Inside diameter: According to pipe outside diameter.
3—Bolt circle diameter: 183 mm. (7⅛ in.).
4—Slots in flange: 6 holes 23 mm. (⅞ in.) in diameter shall be equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery. The slot width is to be 22 mm. (⅞ in.).
5—Flange thickness: 20 mm. (¾ in.).
6—Bolts and nuts: 6, each of 20 mm. (¾ in.) in diameter and of suitable length.

The flange must be of steel having a flat face, with a gasket of oilproof material, and must be suitable for a service pressure of 6 kg./cm.2 (85 p.s.i.).

The steel materials used must meet the material specifications of standard B16.5, Steel Pipe Flanges and Flanged Fittings of the American National Standards Institute. (see NOTE § 154.500 of this chapter).

PART 156—OIL TRANSFER OPERATIONS

Sec.

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AUTHORITY: The provisions of this Part 156 issued under section 311(j)(1)(C) and (D) of the Federal Water Pollution Control Act (86 Stat. 816, 868); 33 U.S.C. 1321(j)(1)(C) and (D); E.O. 11735, 3 CFR 1966–1970 COMP., p. 940; 49 CFR 1.46(m).

§ 156.100 Applicability.

This part applies to the transfer of oil on the navigable waters or contiguous zone of the U.S. to or from any vessel or public vessel with a capacity of 250 or more barrels of that oil except that this part does not apply to the transfer operation on a public vessel.

§ 156.105 Definitions.

As used in this part:

"Barrel" means the unit of fluid measure equivalent to 42 U.S. gallons at 60° F.

"Captain of the Port" (COTP) means the U.S. Coast Guard Officer commanding a Captain of the Port area described in Part 3 of this chapter or his authorized representative or, where there is no Captain of the Port area, a District Commander of a Coast Guard district described in Part 3 of this chapter or his authorized representative.

"Commandant" means the Commandant of the Coast Guard or his authorized representative.

"District Commander" means the officer of the Coast Guard designated by the

Commandant to command a Coast Guard District as described in Part 3 of this chapter or his authorized representative.

"Facility" means either an onshore facility or an offshore facility and includes, but is not limited to, structures, equipment and appurtenances thereto, used or capable of being used to transfer oil to or from a vessel or public vessel. A facility includes federal, state, municipal, and private facilities.

"Facility operator" means the person who owns, operates, or is responsible for the operation of the facility.

"Mobile facility" means any facility that can readily change locations, such as a tank truck or tank car, other than a vessel or public vessel.

"Monitoring device" means any fixed or portable sensing device used to monitor the waters within or around a facility and designed to notify operating personnel of a discharge of oil.

"Officer in Charge, Marine Inspection" (OCMI) means the U.S. Coast Guard officer commanding a Marine Inspection Zone described in Part 3 of this chapter, or his authorized representative.

"Offshore facility" means any facility of any kind located in, on, or under any of the navigable waters of the United States other than a vessel or a public vessel.

"Oil" means oil of any kind or in any form including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. For the purpose of this part liquefied natural gas and liquefied petroleum gas (LNG and LPG) are excluded.

"Onshore facility" means any facility (including, but not limited to, a mobile facility) of any kind located in, on or under any land within the United States other than submerged land.

"Person" includes an individual, firm, corporation, association, and partnership.

"Person in charge" means an individual designated as a person in charge of oil transfer operations under § 154.710 or § 155.700 of this chapter.

"Public vessel" means a vessel owned or bare-boat chartered and operated by the United States, or by a State or political subdivision thereof, or by a foreign nation, except when such a vessel is engaged in commerce.

"Tank vessel" means any vessel that carries or is capable of carrying liquid bulk cargo in tanks.

"Tank barge" means any tank vessel not equipped with a means of self propulsion.

"Vessel" means every description of watercraft or other artificial contrivance, whether U.S. or foreign, used or capable of being used as a means of transportation on water, other than a public vessel.

"Vessel operator" means the person who owns, operates, or is responsible for the operation of the vessel.

§ 156.107 Alternatives.

(a) The COTP may consider and approve alternative procedures, methods or equipment standards to be used by a vessel or facility operator in lieu of any requirements in this part if—

(1) The vessel or facility operator submits a written request for the alternative at least 30 days before operations under the alternative are proposed, unless the COTP authorizes a shorter time; and

(2) The alternative provides an equivalent level of protection from pollution by oil.

(b) The COTP approves or disapproves any alternative requested, either in writing, or orally followed up in writing.

§ 156.110 Exemptions.

(a) The Commandant may grant an exemption or partial exemption from compliance with any requirement in this part if—

(1) The vessel or facility operator submits an application for exemption to the Commandant via the COTP at least 30 days before operations under the exemption are proposed, unless the COTP authorizes a shorter time; and

(2) The Commandant determines from the application that—

(i) Compliance with the requirement is economically or physically impractical;

(ii) No alternative procedures, methods, or equipment standards exist that would provide an equivalent level of protection from pollution by oil; and

(iii) The likelihood of oil being discharged as a result of the exemption is minimal.

(b) In making the determinations in paragraph (a) of this section, the Commandant may require—

(1) Any appropriate information, including an environmental and economic assessment of the effects of and reasons for the exemption; and

(2) Procedures, methods, and equipment, even though they may provide less than an equivalent level of protection from pollution by oil.

(c) The Commandant grants or denies an exemption in writing.

§ 156.112 Suspension order.

The COTP or OCMI may issue a suspension order to suspend oil transfer operations to the vessel or facility operator when the COTP or OCMI finds there is a condition requiring action to prevent the discharge or threat of discharge of oil. A suspension order—

(a) May be effective immediately;

(b) Is issued in writing unless it is effective immediately and then it may be issued orally and followed up in writing;

(c) Includes a statement of each condition requiring action to prevent the discharge of oil; and

(d) Is withdrawn when the COTP, OCMI, or District Commander determines that the condition requiring action to prevent the discharge or threat of discharge of oil has been corrected or no longer exists.

§ 156.113 Compliance with suspension order.

(a) No vessel or facility operator to whom a suspension order has been issued may conduct oil transfer operations until that order is withdrawn by the COTP, OCMI, or District Commander.

(b) The vessel or facility operator may petition the District Commander in writing, or in any manner when the order is effective immediately, to withdraw the suspension order. The petition does not stay the order. The decision of the District Commander is the final administrative decision.

§ 156.115 Person in charge: limitations.

(a) No person may serve as the person in charge of oil transfer operations on more than one vessel at a time during oil transfers between vessels or between two or more vessels and a facility unless authorized by the COTP.

(b) No person may serve as the person in charge of both a vessel and a facility during oil transfer operations except when agreed upon by both the vessel and facility operators and authorized by the COTP.

§ 156.120 Requirements for oil transfer.

No person may conduct an oil transfer operation unless—

(a) The facility operator or, in the case of a vessel to vessel transfer, the vessel operator of the lightering or the fueling vessel notifies the COTP of the time and place of each oil transfer operation at least 4 hours before it begins;

NOTE: The notification may be accomplished by submitting a written schedule, periodically updated to be current.

(b) The vessel's moorings are strong enough to hold during all expected conditions of surge, current, and weather and are long enough to allow adjustment for changes in draft, drift, and tide during the transfer operation;

(c) Oil transfer hoses and loading arms are long enough to allow the vessel to move to the limits of its moorings without placing strain on the hose, loading arm, or oil transfer piping system;

(d) Each hose is supported to prevent kinking and strain on its coupling;

(e) Each part of the oil transfer system is aligned to allow the flow of oil;

(f) Each part of the oil transfer system not necessary for the transfer operation is securely blanked or shut off;

(g) The end of each hose and loading arm that is not connected for the transfer of oil is blanked off using the closure devices required by §§ 154.520 and 155.805 of this chapter;

(h) The transfer system is attached to a fixed connection on the vessel and the facility except that—

(1) When a vessel is receiving fuel, an automatic back pressure shutoff nozzle may be use; or

(2) When a vessel is loading or unloading deep tanks in a cargo hold where there is no access to the water for any oil that might be discharged into the cargo hold, a loose hose may be used at the deep tank opening for combustible liquids only (as defined in 46 CFR 30.10).

(i) Each overboard discharge or sea suction valve that is connected to the

vessel's oil transfer or cargo tank system is sealed or lashed in the closed position;

(j) Each oil transfer hose has no loose covers, kinks, bulges, soft spots, and no gouges, cuts, or slashes that penetrate the first layer of hose reinforcement ("reinforcement" means the strength members, consisting of fabric, cord and/or metal, of the hose);

(k) Each hose or loading arm in use meeets § 154.500 of this chapter;

(l) Each connection meets § 156.130;

(m) Any monitoring devices required by § 154.525 of this chapter are installed and operating properly;

(n) The discharge containment required by §§ 154.530, 155.310, and 155.320 of this chapter, as applicable, is in place and completely drained of any liquid;

(o) Each scupper and drain required by § 155.310 of this chapter is closed;

(p) All connections in the oil transfer system are leak free except that a component in an oil transfer system, such as the packing glands of a pump, may leak at a rate that does not exceed the capacity of the discharge containment provided;

(q) The communications required by §§ 154.560 and 155.785 of this chapter are operable for the transfer operation;

(r) The emergency means of shutdown required by §§ 154.550 and 155.780 of this chapter, as applicable, is in position and operable;

(s) There is a person in charge on the transferring vessel or facility and the receiving vessel or facility except as otherwise authorized under § 156.115;

(t) Each person in charge required by paragraph (s) of this section—

(1) Is at the site of the oil transfer operation;

(2) Has in his possession a copy of the facility operations manual or vessel transfer procedures, as appropriate; and

(3) Conducts the transfer operation in accordance with the facility operations manual or vessel oil transfer procedures, as appropriate;

(u) The personnel required, under the facility operations manual and the vessel oil transfer procedures, to conduct the oil transfer operation—

(1) Are on duty; and

(2) Conduct the transfer operation in accordance with the facility operations manual or vessel oil transfer procedures, as appropriate;

(v) At least one person is present who fluently speaks the language or languages spoken by both persons in charge;

(w) The person in charge of oil transfer operations on the transferring vessel or facility and the person in charge of oil transfer operations on the receiving vessel or facility have held a conference, to ensure that each person in charge understands the following details of the transfer operation:

(1) The identity of the product to be transferred.

(2) The sequence of transfer operations.

(3) The transfer rate.

(4) The name or title and location of each person participating in the transfer operation.

(5) Details of the transferring and receiving systems.

(6) Critical stages of the transfer operation.

(7) Federal, state, and local rules that apply to the transfer of oil.

(8) Emergency procedures.

(9) Discharge containment procedures.

(10) Discharge reporting procedures.

(11) Watch or shift arrangement.

(12) Transfer shutdown procedures.

(x) The person in charge of oil transfer operations on the transferring vessel or facility and the person in charge of oil transfer operations on the receiving vessel or facility agree to begin the transfer operation;

(y) Between sunset and sunrise the lighting required by §§ 154.570 and 155.790 of this chapter is provided; and

(z) For transfer operations between tank barges from sunset to sunrise, lighting is provided as described in § 155.790 of this chapter.

§ 156.125 Oil discharge clean-up.

(a) Each person conducting an oil transfer operation shall stop the transfer operation whenever any oil is discharged—

(1) In the transfer operation work area; or

(2) Into the water or upon the adjoining shoreline.

(b) Except as permitted under paragraph (c) of this section, no person may resume an oil transfer operation after it has been stopped under paragraph (a) of this section, unless—

(1) Oil discharged in the oil transfer operation work area is cleaned up; and

(2) Oil discharged into the water or upon the adjoining shoreline is cleaned up, or is contained and being cleaned up.

(c) The COTP may authorize resuming the oil transfer operation if he determines that it will decrease the likelihood of the further discharge of oil.

§ 156.130 Connections.

(a) Each person who makes a connection for oil transfer operations shall—

(1) Use suitable material in joints and couplings to ensure a leak-free seal;

(2) Use a bolt in at least every other hole, and in no case less than four bolts, in each temporary bolted connection that uses a flange that meets American National Standards Institute (ANSI) standard flange requirements under § 154.500(d)(2) of this chapter;

(3) Use a bolt in each hol in each

(3) Use a bolt in each hole in each temporary bolted connection that uses a flange other than one that meets ANSI standards;

(4) Use a bolt in each hole of each permanently connected flange;

(5) Use bolts of the correct size in each bolted connection; and

(6) Tighten each bolt and nut uniformly to distribute the load and sufficiently to ensure a leak free seal.

(b) No person who makes a connection for oil transfer operations may use any bolt that shows signs of strain or is elongated or deteriorated.

(c) Except as provided in paragraph (d) of this section, no person may use a connection for oil transfer operations unless it is—

(1) A bolted or full threaded connection; or (2) a quick-connect coupling acceptable to the Commandant.

(d) No person may transfer oil to a vessel that has a fill pipe for which containment can not practically be provided unless an automatic back pressure shutoff nozzle is used.

§ 156.150 Declaration of inspection.

(a) No person may transfer oil to or from a vessel unless each person in charge, designated under §§ 154.710 and 155.700 of this chapter, has filled out and signed the declaration of inspection form described in paragraph (c) of this section.

(b) No person in charge may sign the declaration of inspection unless he has determined by inspection, and indicated by initialling in the appropriate space on the declaration of inpection form, that the facility or vessel, as appropriate, meets § 156.120.

(c) The declaration of inspection may be in any form but must contain at least—

(1) The name or other identification of the transferring vessel or facility and the receiving vessel or facility;

(2) The address of the facility or location of the transfer operation if not at a facility;

(3) The date the transfer operation is started;

(4) A list of the requirements in § 156.120 with spaces on the form following each requirement for the person in charge of the vessel or facility to indicate by initialling that the requirement is met for the transfer operation; and

(5) A space for the date, time of signing, signature, and title of each person in charge during oil transfer operations on the transferring vessel or facility and space for the date, time of signing, signature, and title of each person in charge during oil transfer operations on the receiving facility or vessel.

(d) The form for the declaration of inspection may incorporate the declaration-of-inspection requirements under 46 CFR 35.35–30.

(e) The vessel and facility persons in charge shall each have a signed copy of the declaration of inspection available for inspection by the COTP during the oil transfer operation.

(f) The operators of each vessel and facility engaged in an oil transfer operation shall retain, for at least 1 month from the date of signature, a signed copy of the declaration of inspection.

§ 156.160 Supervision by person in charge.

(a) No person may connect or disconnect a hose, top off a tank, or engage in any other critical procedures during an oil transfer operation unless the person

in charge, required by § 156.120(s), supervises that procedure.

(b) No person may start the flow of oil to or from a vessel unless instructed to do so by either person in charge.

(c) No person may transfer oil to or from a vessel unless each person in charge is in the immediate vicinity and immediately available to the oil transfer personnel.

§ 156.170 Equipment tests and inspections.

(a) Except as provided in paragraph (d) of this section, no person may use any equipment listed in paragraph (c) of this section for oil transfer operations unless the vessel or facility operator, as appropriate, tests and insects the equipment annually in accordance with paragraphs (b) and (c) of this section and the equipment is in the condition specified in paragraph (c) of this section.

(b) During any test or inspection required by this section, the entire external surface of the hose must be accessible.

(c) For the purpose of paragraph (a) of this section—

(1) Each nonmetallic oil transfer hose must—

(i) Have no loose covers, kinks, bulges, soft spots, and no gouges, cuts, or slashes that penetrate the first layer of hose reinforcement, as defined in § 156.120(j).

(ii) Have no external deterioration and, to the extent internal inspection is possible wih both ends of the hose open, no internal deterioration; and

(iii) Not burst, bulge, leak, or abnormally distort under static liquid pressure at least 1½ times the maximum allowable working pressure;

(2) Each transfer system relief valve must open at or below the pressure at which it is set to open;

(3) Each pressure gauge must show pressure within 10 percent of the actual pressure;

(4) Each loading arm and each oil transfer pipe system, including each metallic hose, must not leak under static liquid pressure at least 1½ times the maximum allowable working pressure; and

(5) Each item of remote operating or indicating equipment, such as a remotely operated valve, tank level alarm, or emergency shutdown device, must perform its intended function.

(d) No person may use any hose in underwater service for oil transfer operations unless the operator of the vessel or facility has tested and inspected it biennially in accordance with paragraph (c)(1) or (c)(4) of this section, as applicable.

(e) Any liquid may be used for the testing required by this section.

(Sec. 311(j)(1)(C) and (D), Pub. L 92–500, as amended, § 2, 86 Stat. 868, as amended, (33 U.S.C. 1321(j)(1)(C) and (D); E.O. 11735, 3 CFR, 1966—1970 COMP., p. 949; (49 CFR 1.46(m).))

NOTE: The Coast Guard has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821, as amended; and OMB Circular A–107.

Dated: June 17, 1977.

O. W. SILER,
Admiral, U.S. Coast Guard,
Commandant.

[FR Doc.77–18087 Filed 6–24–77;8:45 am]

[33 CFR, Part 157]

[CGD 76–088b]

TANK VESSELS CARRYING OIL IN BULK

Miscellaneous Rules Providing for Protection of the Marine Environment

AGENCY: Coast Guard, DOT.

ACTION: Notice of proposed rule making.

SUMMARY: The Coast Guard proposes requirements for installation and use of approved cargo monitors on board tank vessels carrying oil in bulk, both U.S. and foreign that are of 150 gross tons or more and call at U.S. ports. Specifications for this equipment have been developed by the Marine Environment Protection Committee of the Intergovernmental Maritime Consultative Organization, and approval regulations based upon them have been proposed elsewhere in this issue of the FEDERAL REGISTER. Editorial revisions and clarifications to the intent of the existing regulations for tank vessels carrying oil in bulk are also proposed. The intended effect of these amendments is to reduce pollution from operational oil discharges.

DATES: Comments must be received on or before August 11, 1977.

ADDRESSES: (a) *Written comments.* Written comments on this proposed rule making should be submitted to and will be available for examination at the Marine Safety Council (G–CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street SW., Washington, D.C. 20590.

(b) *Economic evaluation.* A copy of the economic evaluation from which the economic summary in this document is taken is available for examination at the address listed in paragraph (a).

(c) *Environmental impact declaration.* A copy of the negative declaration of environmental impact, which has been prepared for this proposal, is available for examination at the address listed in paragraph (a).

FOR FURTHER INFORMATION CONTACT:

Captain George K. Greiner, Marine Safety Council (G–CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, SW., Washington, D.C. 25090 (202–426–1477).

SUPPLEMENTARY INFORMATION: Interested persons are invited to participate in this proposed rule making by submitting written data, views, or arguments. Each person submitting a comment should include his name and address, identify this notice (CGD 76–088b), and give reasons for his comment. The proposal may be changed in the light of comments received. No public hearing is planned but one may be held at a time and place to be set in a later notice in the FEDERAL REGISTER if requested in writing by an interested person raising a genuine issue and desiring to comment orally at a public hearing.

Part 157 of Title 33 contains regulations for the protection of the marine environment that pertain to tank vessels carrying oil in bulk. These regulations were issued in the FEDERAL REGISTER of October 14, 1975, (40 FR 48280–48290), and have been subsequently amended in the FEDERAL REGISTER of December 13, 1976 (41 FR 54180). These regulations require in part that fixed piping systems on most tank vessels meet the design requirements prescribed in Part 157 and that oil-water separating and monitoring equipment used on tank vessels be approved by the Coast Guard in accordance with approval specifications to be proposed at a later date. This notice proposes to amend these regulations.

DRAFTING INFORMATION: The principal persons involved in drafting this proposal are: Lowell F. Martin, Project Manager, Office of Merchant Marine Safety, and William R. Register, Project Attorney, Office of the Chief Counsel.

DISCUSSION OF THE PROPOSED REGULATIONS

1. Proposed § 157.11(b) requires in part that each fixed piping system used for transferring and discharging cargo residues and other oily mixtures combined with cargo residues have one or more cargo monitors and that each monitor be equipped with a recording device meeting the requirements of 46 CFR 162.050–25(j). See FR Doc. 77–18089 in this issue of the FEDERAL REGISTER which proposes 46 CFR 162.050–25(j) as a requirement.) A recording device provides a means for determining the amount of oil in a discharge being measured by a cargo monitor and for detecting any malfunction of the signaling device on a monitor used to actuate stop valves in a vessel's fixed piping system. The requirement to have a recording device is essentially the same as the requirement for recording devices in Regulation 15 of Annex I to the International Convention for the Prevention of Pollution from Ships, 1973. The requirement to have a cargo monitor is contained in the current regulations in Part 157.

2. Proposed § 157.11(c) requires that cargo monitors installed on board tank vessels on and after April 1, 1980, meet the applicable Coast Guard approval specifications for the equipment. (The applicable specifications are proposed elsewhere in this issue of the FEDERAL REGISTER.) These specifications are similar to the specifications for monitoring equipment that have been prepared by the Marine Environment Protection Committee of the Intergovernmental Maritime Consultative Organization. The April 1, 1980, compliance date for this

requirement is proposed to allow enough time for approval testing of monitoring equipment.

Proposed § 157.11(c) does not apply to cargo monitors installed on tank vessels before April 1, 1980. The question of whether monitors installed before April 1, 1980, should be required to meet the Coast Guard's applicable approval specifications or other equivalent specifications is currently under study. Related questions of whether existing monitor installations should be allowed to continue in service and, if so, under what conditions are the subject of current discussion by the IMCO Marine Environment Protection Committee. The Coast Guard intends to issue regulations concerning existing installations after completion of its studies and the current IMCO discussions.

3. Proposed § 157.11(d)(3)(ii) contains design requirements for sample points. These requirements are also contained in the IMCO specifications for monitoring equipment. The April 1, 1980, compliance date for these requirements is proposed to allow sufficient time for accomplishing necessary alterations to pumping, piping, and discharge arrangements on tank vessels.

4. Proposed § 157.11(a), § 157.11(d), and § 157.17(a), with the exception of § 157.11(d)(3)(ii), clarify the current provisions in § 157.11 and § 157.17. These clarifications are necessary since experience gained in using the regulations has shown that their intent is somewhat unclear.

5. The proposed revision to paragraph (d) of § 157.19 would allow the valves currently required by that paragraph for piping branch lines that have openings into certain cargo tanks to be located either inside or immediately outside the tanks. The current § 157.19(d) requires the valves to be located inside the tanks. The purpose of a branch line valve is to prevent spillage of oil from a tank into which the branch line opens if the piping outside the tank breaks. A branch line valve that is located immediately outside a tank into which the line opens can perform its function of preventing spillage from the tank as effectively as a valve that is located inside the tank.

6. Proposed § 157.37(c) requires that each cargo monitor be maintained and operated in accordance with the instructions manual required by proposed § 157.23(a). Compliance with this requirement is necessary to ensure proper functioning of the monitor.

7. Proposed § 157.37(d) requires that all discharge data recorded by a cargo monitor be kept on board for three years. This provision is contained in Regulation 15 of Annex I to the International Convention for the Prevention of Pollution from Ships, 1973.

8. The proposed amendment to § 157.39(b) transfers the substance of the requirements for separators and bilge monitors in the current paragraph 157.39(b) to § 155.410(b) of Title 33. The proposed amendments to § 155.410(b) appear elsewhere in this issue of the FEDERAL REGISTER.

9. Proposed § 157.43(a) adds a requirement that clean ballast be discharged in accordance with the requirement in proposed § 157.37(a)(5). Proposed § 157.37(a)(5) in effect provides that oily mixtures may not be discharged overboard, except above the waterline through a discharge point of the type described in proposed § 157.11(d)(3). The proposed addition to § 157.43(a) was originally contained in § 157.43 of the Coast Guard notice of proposed rule making published on June 28, 1974 (39 FR 24152–24157), which proposed to adopt the regulations now contained in Part 157. However, the requirement was inadvertently omitted from the final regulations published on October 14, 1975 (40 FR 48280–48287). Section 157.43(a) is proposed again in this notice to correct the prior omission.

Proposed § 157.43(a), as it was first proposed in 1974, applied only to seagoing U.S. tank vessels of 150 gross tons or more engaged in domestic trade. However, the current § 157.43 applies additionally to U.S. vessels of 150 gross tons or more engaged in foreign trade and to foreign flag vessels of 150 gross tons or more that enter the navigable waters of the United States to engage in commercial service at a U.S. port. Accordingly, the applicability statement in § 157.25 has been revised to make the proposed addition to § 157.43(a) likewise applicable to these additional vessels.

10. The proposed rules would apply to both new and existing vessels, both of which terms are defined in the current Part 157 regulations.

11. The rules in this proposal would become effective 90 days after their promulgation as final rules, except that compliance with §§ 157.11(c) and 157.11(d)(3)(ii) would not be required before April 1, 1980.

This proposal has been reviewed for economic effects under Department of Transportation "Policies to Improve Analysis and Review of Regulations" (41 FR 16200). If all vessels that would be subject to the requirements proposed in this notice installed approved cargo monitors and sample points before April 1, 1980, the annual cost during this period would be approximately six million dollars. The incremental annual cost to obtain Coast Guard approval of this equipment would be approximately $89,000. Additional costs, which have been determined to be minimal in amount, would include those associated with operation and maintenance of monitors. Economic benefits resulting from use of the equipment would be reduced economic losses associated with oil pollution damage to the marine environment and savings from increased conservation of oil.

In consideration of the foregoing, the Coast Guard proposes to amend Part 157 of Title 33, Code of Federal Regulations, as follows:

1. By revising § 157.11 to read as follows:

§ 157.11 Fixed piping systems: cargo residues and other oily mixtures combined with cargo residues.

(a) Each tank vessel must have a fixed piping system for transferring cargo residues and other oily mixtures combined with cargo residues from cargo tanks to slop tanks and for discharging these oily mixtures overboard and to reception facilities.

(b) Each fixed piping system required by paragraph (a) of this section must have one or more cargo monitors. Each monitor must have its own recording device that meets the requirements of 46 CFR 162.050–25(j). For each type of oil that a vessel is designed to carry, at least one of the monitors must be designed for use with that oil.

(c) Each cargo monitor installed on a tank vessel on and after April 1, 1980, must be approved under 46 CFR 162.050.

(d) Each fixed piping system required by paragraph (a) of this section must be designed so that—

(1) It has piping to transfer dirty ballast residues and tank washings from each cargo tank on the vessel to a slop tank;

(2) It has a manifold on the weather deck that connects the piping required by paragraph (d)(1) of this section with at least two discharge points—

(i) Through which oily mixtures can be discharged to reception facilities; and

(ii) One of which is on the port side of the weather deck and one of which is on the starboard side of the weather deck;

(3) Each discharge point through which oily mixtures are discharged overboard from a slop tank, cargo tank, or a cargo pump room bilge—

(i) Is located on the port or starboard side of the vessel above the waterline when it is in its deepest ballast condition;

(ii) Has a sample point that is located in a vertical section of piping inboard of the dischrge point and that is of the type described in Figure 162.050–17(e) of 46 CFR 162.050–17(e); and

(iii) Has a stop valve that is actuated by each of the system's cargo monitors; and

(4) When valves in the system are actuated by one of the system's cargo monitors none of the oily mixture causing actuation can be discharged overboard.

NOTE.—Effective date of § 157.11. (a) Each existing vessel that is a U.S. vessel in domestic trade must comply with §§ 157.11(a), (b), (d)(1), (d)(2), (d)(3)(i) and (iii), and (d)(4) before December 31, 1977.

(b) Each existing vessel that is a foreign vessel or a U.S. vessel in foreign trade must comply with §§ 157.11(a), (b), (d)(1), (d)(2), (d)(3)(i) and (iii), and (d)(4) before December 31, 1979.

(c) Each vessel to which this subpart applies must comply with § 157.11(d)(3)(ii) before April 1, 1980. Compliance with § 157.11(c) is required on and after April 1, 1980.

2. By amending § 157.13 to read as follows:

§ 157.13 Designated observation area.

Each new vessel must have a designated observation area on the weather deck or above that is—

(a) Located where the effluent from each discharge point and manifold described in § 157.11 can be visually observed; and

* * * * *

3. By adding a sentence to the end of paragraph (a) of § 157.17 to read as follows:

§ 157.17 Oily residue tank.

(a) * * * The oily residue tank must have piping that connects it with the discharge point of each machinery space bilge pump.

* * * * *

4. By revising § 157.19(d) to read as follows:

§ 157.19 Cargo tank arrangement and size.

* * * * *

(d) If a line of piping that runs through a cargo tank in a position less than t, from the vessel's side or less than v, from the vessel's bottom, as defined in Appendix A of this part, has a branch, that branch must have a valve—

(1) Within each cargo tank into which the branch opens; or

(2) Outside each tank into which the branch opens in a location that is immediately adjacent to the point at which the branch enters the tank.

* * * * *

5. By revising § 157.23 to read as follows:

§ 157.23 Cargo and ballast system information.

(a) Each tank vessel must have on board an instructions manual that describes the automatic and manual operation of the cargo and ballast system on the vessel and an instructions manual for each cargo monitor on the vessel.

(b) The format and information contained in the instructions manual for operation of the cargo and ballast system must be similar to the manual entitled "Clean Seas Guide for Oil Tankers" which can be obtained from the International Chamber of Shipping, 30–32 St. Mary Axe, London, United Kingdom EC3A 8ET.

6. By revising § 157.25 to read as follows:

§ 157.25 Exceptions to applicability.

(a) Sections 157.29, 157.31, 157.37(a)(5), 157.37(a)(6), and 157.43 apply to foreign vessels when they discharge into the navigable waters of the United States.

(b) Sections 157.35, 157.37, except paragraphs (a)(5) and (a)(6), 157.39, 157.45, and 157.47 do not apply to foreign vessels.

7. By amending § 157.37 to read as follows:

§ 157.37 Discharge of cargo residue.

(a) * * *

(5) Discharges above the waterline through a discharge point described in §157.11(d)(3); and

(6) Has in operation a cargo monitor required by § 157.11(b) that is designed for use with the oil mixture being discharged, except that the system may be operated manually if—

* * * * *

(c) Each cargo monitor must be maintained and operated in accordance with its instructions manual.

(d) All discharge data recorded by a cargo monitor must be retained on board the vessel for three years.

8. By revising § 157.39(b) to read as follows:

§ 157.39 Machinery space bilges.

* * * * *

(b) Each tank vessel must comply with the requirements in § 155.410(b) concerning the use of oil-water separating and monitoring equipment in discharging oily mixtures that are not combined with cargo residues.

9. By revising § 157.43(a) to read as follows:

§ 157.43 Discharges: clean and segregated ballast.

(a) Clean ballast may not be discharged except in accordance with §§ 157.37(a)(5) and 157.37(a)(6).

* * * * *

(46 U.S.C. 391a; 49 U.S.C. 1655(b); 49 CFR 1.46.)

NOTE.—The Coast Guard has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821, as amended, and OMB Circular A–107.

Dated: June 17, 1977.

O. W. SILER,
Admiral, U.S. Coast Guard,
Commandant.

[Doc.77–18088 Filed 6–24–77;8:45 am]

[46 CFR, Part 162]

[CGD 76–088a]

OIL POLLUTION PREVENTION EQUIPMENT

Approval Requirements

AGENCY: Coast Guard, DOT.

ACTION: Notice of Proposed Rulemaking.

SUMMARY: The Coast Guard proposes to add approval procedures and specifications for oil-water separators, cargo monitors, bilge monitors, and bilge alarms to the existing approval requirements for engineering equipment used on merchant vessels. International design and test specifications for this equipment were recently adopted by the Marine Environment Protection Committee (MEPC) of the Intergovernmental Maritime Consultative Organization (IMCO). This action incorporates the MEPC specifications, and the effect of this action will be to ensure use of pollution prevention equipment that is representative of the best technology presently available.

DATES: Comments must be received on or before: August 11, 1977.

ADDRESSES: (a) *Written comments.* Written comments on this proposed rule making should be submitted to and will be available for examination at the Marine Safety Council (G–CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street SW., Washington, D.C. 20590.

(b) *Economic Evaluation.* A copy of the economic evaluation from which the economic summary in this document is taken is available for examination at the address listed in paragraph (a).

(c) *Environmental Impact Declaration.* Copies of the negative declaration of environmental impact, which has been prepared for this proposal, is available upon request to the Marine Safety Council at the address listed in paragraph (a).

FOR FURTHER INFORMATION CONTACT:

Captain George K. Greiner, Marine Safety Council (G–CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street SW., Washington, D.C. 20590, 202–426–1477.

SUPPLEMENTARY INFORMATION: Interested persons are invited to participate in this proposed rule making by submitting written data, views, or arguments. Each person submitting a comment should include his name and address, identity this notice (CGD 76–088a) and the specific section of the proposal to which his comment refers, and give reasons for his comment. The proposal may be changed in the light of comments received. No public hearing is planned but one may be held at a time and place to be set in a later notice in the FEDERAL REGISTER if requested in writing by an interested person raising a genuine issue and desiring to comment orally at a public hearing.

DRAFTING INFORMATION: The principal persons involved in drafting this proposal are: Lowell F. Martin, Project Manager, Office of Merchant Marine Safety, and William R. Register, Project Attorney, Office of the Chief Counsel.

DISCUSSION OF THE PROPOSED REGULATIONS

In November 1973, the International Conference on Marine Pollution convened by IMCO adopted the International Convention for the Prevention of Pollution from Ships, 1973. Annex I to this convention sets forth several pollution requirements applicable to vessels including requirements.

Coast Guard regulations in §§ 155.400, 157.37, and 157.39 of Title 33 of the Code of Federal Regulations currently

allow the use of Coast Guard approved pollution equipment under operating conditions prescribed in those regulations. The regulations proposed in this notice contain the procedures for obtaining Coast Guard approval of the equipment and the design and testing specification applicable to the equipment. A notice of proposed rule making appears elsewhere in this issue of the FEDERAL REGISTER proposing to revise Part 155 of Title 33 to require use of bilge alarms, bilge monitors, and separators approved under the regulations proposed in this notice. A notice of proposed rule making appears elsewhere in this issue of the FEDERAL REGISTER that proposes to revise § 157.37 to require the use of cargo monitors approved under the regulations proposed in this notice.

The technology pertaining to shipboard oil-water separation and to monitoring of overboard discharges of oily mixtures is in a state of continuing development. Accordingly, technology advancements occurring after adoption of the design and testing specifications in this proposal would be reviewed on an ongoing basis to determine the need for any revision of the specifications.

A discussion of the proposed regulations is contained in the following paragraphs:

Section 162.050–5 lists the information that must be contained in an application for approval of an item of equipment. The section in effect provides that each item for which approval is sought must be the subject of a separate application. However, paragraph 162.050–5(b) provides that an application may reference information contained in a previously submitted application so that excess paperwork can be avoided.

Section 162.050–7 describes the procedures for obtaining approval of an item of pollution equipment. Paragraph 162.050–7(b) of these procedures describes the initial processing of an application. When the application is received, it is examined to determine whether the item complies with the applicable requirements of the Coast Guard marine engineering regulations (Subchapter F) and electrical engineering regulations (Subchapter J) and with the other design requirements proposed in this notice. Examination is also made to determine the probability that the item will pass the approval tests. Paragraphs 162.050–7 (c) through (g) prescribe the procedures for submitting an item for testing, conducting the tests, preparing and reviewing test reports, and issuing approval certificates. Paragraphs 162.050–7 (h), (i), (j), and (k) contain the approval criteria for each item of equipment.

The approval criteria in paragraph 162.050–7 (h) and (k) for a bilge alarm and 15 p.p.m. separator adopt the IMCO standard on oil content of overboard discharges through a 15 p.p.m. separator. This standard is contained in Annex I to the International Convention for the Prevention of Pollution from Ships, 1973. The standard prescribes a concentration limit of 15 parts per million (p.p.m.) of oil in water for overboard discharges through a 15 p.p.m. separator that has an alarm to indicate when this concentration is exceeded. The current overboard discharge limit prescribed by the Environmental Protection Agency in Part 110 of Title 40, Code of Federal Regulations, in pertinent part essentially provides that oil discharges into the navigable waters or contiguous zone must not create a sludge or emulsion or produce visible traces of oil in water or along adjoining shorelines. The Coast Guard is currently having discussions with EPA on the question of whether a discharge concentration of less than 15 p.p.m. oil in water is within the discharge limit prescribed by EPA regulations. Changes to the regulations in Part 157 of Title 33 that prescribe discharge limitations for separating and monitoring equipment may be proposed after resolution of this question.

Section 162.050–9 prescribes the contents of the test report to be submitted by a testing facility upon completion of approval testing. Sections 162.050–11 and 162.050–13 contain marking requirements for approved equipment and Coast Guard factory inspection procedures.

Section 162.050–15 prescribes procedures for obtaining designation as a facility authorized to perform approval tests. The Coast Guard is making an inquiry to determine what commercial facilities have an interest in conducting approval tests. Facilities that are considering submitting requests to be designated as testing facilities are specifically requested to comment on this notice of proposed rule making.

Sections 162.050–17 and 162.050–19 describe the test rigs that must be used in conducting approval tests on separators, monitors, and alarms.

Sections 162.050–21, 162.050–25, 162.050–29, and 162.050–33 propose design requirements for oil-water separators, cargo monitors, bilge monitors, and bilge alarms. The requirements are based upon those contained in the MEPC specifications. They also incorporate the applicable safety requirements in the Coast Guard marine and electrical engineering regulations published in Subchapters F and J of Title 46, Code of Federal Regulations. The requirements in paragraphs 162.050–25(j) and 162.050–29(d) for each cargo monitor and each bilge monitor to have a recording device are also contained in the International Convention for the Prevention of Pollution from Ships, 1973.

Section 162.050–23 contains approval tests for separators. The tests assess the performance capability of a separator using both low and high concentrations of oil in the influent to the separator as well as with a pure oil influent. The tests also evaluate performance when influent suction is lost and when the separator is operated for an extended period in the automatic mode.

Section 162.050–27 contains approval tests for cargo monitors. The tests assess the performance capability of a cargo monitor using a variety of crude oils or refined products, or both, depending upon which oils the monitor is designed to use. The tests also determine cargo monitor response time and assess performance under variable operating conditions and after an extended shutdown period.

Section 162.050–31 contains approval tests for bilge monitors. These tests are similar to those for cargo monitors, except that the oils specified for separator tests are used in lieu of the cargo oils specified for cargo monitor tests. Section 162.050–31 contains, in addition, tests that assess the capability of the devices required by §§ 162.050–20 (c)(1) and (c)(2) to produce the signals prescribed by those regulations.

Section 162.050–35 contains approval tests for bilge alarms. These tests assess the capability of an alarm to actuate at an oil concentration of 15 parts per million of oil in water when the power supply to the alarm is higher or lower than design ratings. The tests also assess the alarm's capability to operate properly for extended periods and after extended shutdown periods.

Section 162.050–37 requires that a vibration test be conducted for each monitor and bilge alarm and each separator control component submitted for approval. This test must be performed for an applicant by an independent laboratory. A laboratory report describing the results of the testing must be submitted with the application for approval.

Section 162.050–39 prescribes the method for measuring oil content of samples taken during approval testing of separators. The method consists of carbon tetrachloride solvent extraction and infrared spectrophotometry. This method has been developed by the Environmental Protection Agency after extensive consideration of alternative methods. The EPA method is specified in detail in this proposal to ensure that a high level of accuracy is maintained in measuring the oil content of the samples taken during testing. This method was selected for inclusion in the MEPC specifications.

This proposal has been reviewed for economic effects under Department of Transportation "Policies to Improve Analysis and Review of Regulations" (41 FR 16200). The costs to pollution equipment manufacturers will be those related to obtaining Coast Guard approval. It is estimated that approximately sixty devices may require approval at a cost per approval of $5,000 resulting in total industry costs of $300,000. The impact of administering the proposed approval program would be absorbed with existing Coast Guard resources; and, therefore, there would be no significant costs to the Coast Guard. The proposed approval program provides for the availability of equipment that has been developed on the basis of the best technology presently available and will, thus, reduce economic losses associated with oil pollution damage to the marine environment.

These regulations are proposed under the authority of 33 U.S.C. 1321(j), 46 U.S.C. 391a, 49 U.S.C. 1655(b)(1), and 49 CFR 1.46.

In consideration of the foregoing, the Coast Guard proposes to amend Part 162 of Title 46, Code of Federal Regulations, by adding a new Subpart 162.050 to read as follows:

Subpart 162.050—Pollution Prevention Equipment

Sec.

162.050–1 Scope.
162.050–3 Definitions.
162.050–5 Contents of application.
162.050–7 Approval procedures.
162.050–9 Test report.
162.050–11 Marking.
162.050–13 Factory inspection.
162.050–15 Designation of facilities.
162.050–17 Separator test rig.
162.050–19 Monitor and bilge alarm test rig.
162.050–21 Separator: design specification.
162.050–23 Separator: approval tests.
162.050–25 Cargo monitor: design specification.
162.050–27 Cargo monitor: approval test.
162.050–29 Bilge monitor: design specification.
162.050–31 Bilge monitor: approval tests.
162.050–33 Bilge alarm: design specification.
162.050–35 Bilge alarm: approval tests.
162.050–37 Vibration test.
162.050–39 Measurement of oil content.

AUTHORITY: This subpart is issued under the authority of 33 U.S.C. 1321(j), 46 U.S.C. 391a, 49 U.S.C. 1655(b)(1), and 49 CFR 1.46.

§ 162.050–1 Scope.

This subpart contains—

(a) Procedures for approval of 100 p.p.m. separators, 15 p.p.m. separators, cargo monitors, bilge monitors, and bilge alarms;

(b) Design specifications for this equipment;

(c) Tests required for approval;

(d) Procedures for obtaining designation as a facility authorized to conduct approval tests; and

(e) Marking requirements and factory inspection procedures.

§ 162.050–3 Definitions.

As used in this subpart—

(a) "p.p.m." means parts per million of oil in water;

(b) "100 p.p.m. separator" means a separator that is designed to produce an effluent to be discharged overboard containing an oil concentration in water of 100 p.p.m. or less; and

(c) "15 p.p.m. separator" means a separator that is designed to produce an effluent to be discharged overboard containing an oil concentration in water of 15 p.p.m. or less.

§ 162.050–5 Contents of application.

(a) An application for approval of an item of equipment under this subpart must contain the following information:

(1) The type of item including, if the item is a separator, a statement of what effluent oil content the separator is designed to produce.

(2) The name and address of the applicant and manufacturing facility.

(3) A detailed description of the quality control procedures, the in-process and final inspections and tests followed in manufacturing the item, and the construction and sales record keeping systems maintained.

(4) Arrangement drawings and piping diagrams of the item that give the information prescribed by § 56.01–10(d) of this chapter.

(5) Detailed electrical plans of the type described in § 111.05–5(d) of this chapter.

(6) An instructions manual containing detailed installation, operation calibration and zeroing, and maintenance instructions for the item.

(7) For each monitor and bilge alarm and each control on a separator, the vibration test report described in § 162.050–37 of this subpart.

(8) For each cargo monitor, a statement of whether it is to be used with crude oils, refined products, or both.

(9) A list of the substances used in operating the item that require certification under Part 147 of this chapter as articles of ships' stores and supplies.

(10) The name of the facility at which approval testing is planned.

(b) An applicant may incorporate by reference in his application information that he has submitted in a previous application.

§ 162.050–7 Approval procedures.

(a) An application for approval of an item of equipment under this subpart must be sent to the Commandant (G–MNT–3/83), U.S. Coast Guard, Washington, D.C. 20590.

(b) The application is examined by the Coast Guard to determine whether the item complies with the design requirements and vibration standard prescribed in this subpart and to determine the probability that the item will pass the approval tests. If the application is incomplete it is returned to the applicant with a statement of reasons why it is incomplete.

(c) The Coast Guard notifies the applicant of the results of the examination. The applicant must make arrangements for approval testing directly with the facility at which testing is planned.

(d) Each item submitted to a facility for approval testing must be accompanied by a copy of its instructions manual.

(e) If the item to be tested is a separator that is manufactured in more than one size and applications for approval have been made for each size, the applicant, in lieu of submitting each size for testing, may submit each size that has a capacity exceeding fifty (50) cubic meters per hour throughput, if any, and two additional sizes that have a capacity of fifty (50) cubic meters per hour throughput or less. One of the additional sizes must have a capacity that is in the highest quartile of capacities manufactured in the 0–50 cubic meters per hour throughput range and the other must be from the lowest quartile.

(f) Each approval test must be performed by one of the facilities designated by the Commandant. The facility must perform each test in accordance with the test conditions prescribed in this subpart for the test, prepare a test report for the item if it completes all of the tests, and send the report with four copies to the Commandant (G–MMT). The applicant may observe the tests. If an item does not complete testing, a new application must be submitted before retesting.

(g) The Commandant (G–MMT) sends a copy of the test report to the applicant and advises him whether the item is approved. If the item is approved, an approval certificate is sent to the applicant.

(h) A separator is approved under this subpart if—

(1) It meets the design requirements in § 162.050–21;

(2) In the case of a 100 p.p.m. separator, the oil content of each sample taken during approval testing is 100 p.p.m. or less;

(3) In the case of a 15 p.p.m. separator, the oil content of each sample taken during approval testing is 15 p.p.m. or less;

(4) During Test No. 4S an oily mixture is not detected at the separated water outlet of the separator;

(5) During Test No. 6S its operation is continuous; and

(6) Any substance used in operating the separator that requires certification under Part 147 of this chapter as an article of ships' stores or supplies has been certified.

(i) A cargo monitor is approved under this subpart if—

(1) It meets the design requirements in § 162.050–25;

(2) Each oil content reading recorded during approval testing is within ±10 p.p.m. or ±20 percent of the oil content of the mixture used in the testing;

(3) Its response time is twenty (20) seconds or less in Test No. 3CM;

(4) The time intervals between successive readings recorded in Test No. 4CM are twenty (20) seconds or less; and

(5) Any substance used in operating the monitor that requires certification under Part 147 of this chapter as an article of ships' stores or supplies has been certified.

(j) A bilge monitor is approved under this subpart if—

(1) It meets the design requirements in § 162.050–29;

(2) Except as provided in § 162.050–7(j)(5), each oil content reading recorded during approval testing is within ±10 p.p.m. or ±20 percent of the oil content of the mixture used in testing;

(3) The time intervals between successive readings recorded in test No. 3BM are twenty (20) seconds or less;

(4) The time intervals between successive readings recorded in Test No. 4BM are twenty (20) seconds or less;

(5) Each oil content that is recorded during the testing when the device required by § 162.050–29(c)(1) actuates is 15 p.p.m. ±5 p.p.m.;

(6) Each oil content that is recorded during testing when the device required by § 162.050–29(c)(2) actuates is 100 p.p.m. ±20 p.p.m.; and

(7) Any substance used in operating the monitor that requires certification under Part 147 of this chapter as an

article of ships' stores or supplies has been certified.

(k) A bilge alarm is approved under this subpart if—

(1) It meets the design requirements in § 162.050–33;

(2) Each oil content recorded during approval testing is 15 p.p.m. ±5 p.p.m.; and

(3) Any substance used in operating the alarm that requires certification under Part 147 of this chapter as an article of ships' stores or supplies has been certified.

§ 162.050–9 Test report.

A test report of approval testing must contain the following:

(a) Name of the testing facility.

(b) Name of the applicant.

(c) Date of receiving the item for testing and the dates of the tests conducted.

(d) Trade name and brief description of the item.

(e) A listing of the following properties of the test oils used:

(1) Relative density at 15°C.

(2) Viscosity in centistokes at 37.8°C.

(3) Flashpoint.

(4) Weight of ash content.

(5) Weight of water content.

(f) Relative density at 15°C. of the water used during testing and the weight of solid content in the water.

(g) The data recorded during each test.

§ 162.050–11 Marking.

(a) Each separator, monitor, or bilge alarm manufactured in accordance with the provisions of a certificate of approval must be plainly marked by the manufacturer with the information listed in paragraph (b) of this section. The marking must be securely fastened to the item.

(b) Each marking must include the following information:

(1) Name of the manufacturer.

(2) Name or model number of the item.

(3) If the item is a separator, the maximum throughput at which the separator is designed to operate.

(4) The month and year of completion of manufacture.

(5) The manufacturer's serial number for the item.

(6) The Coast Guard approval number assigned to the item in the certificate of approval.

(7) Each restriction, if any, on the use of bilge cleaners, solvents, and other chemical compounds that could impair operation of the equipment.

(8) If the item is a cargo monitor, the oils with which it is approved for use.

§ 162.050–13 Factory inspection.

The Coast Guard does not inspect equipment approved under this subpart on a regular schedule at the place of manufacture. However, the Commandant may detail Coast Guard personnel at any time to visit a factory where the equipment is manufactured to conduct an inspection of the manufacturing procedures. The manufacturer is advised in advance of any planned factory inspection.

§ 162.050–15 Designation of facilities.

(a) Each request for designation as a facility authorized to perform approval tests must be submitted to the Commandant (G–MMT–3/83), U.S. Coast Guard, Washington, D.C. 20590.

(b) Each request must include the following:

(1) Name and address of the facility.

(2) The type of equipment the facility proposes to test.

(3) A description of the facility's capability to perform approval tests including detailed information on the following:

(i) Management organization including personnel qualifications.

(ii) Equipment available for measuring oil content of samples.

(iii) Materials available for use in approval testing.

(iv) Each test rig to be used.

(c) To obtain authorization to conduct approval tests—

(1) A facility must have the management organization, equipment for measuring the oil content of samples, and material necessary to perform the tests;

(2) Each of its test rigs must be of a type described in §§ 162.050–17 or 162.050–19 of this subpart;

(3) The loss or award of a specific contract to test equipment must not be a substantial factor in the facility's financial well being; and

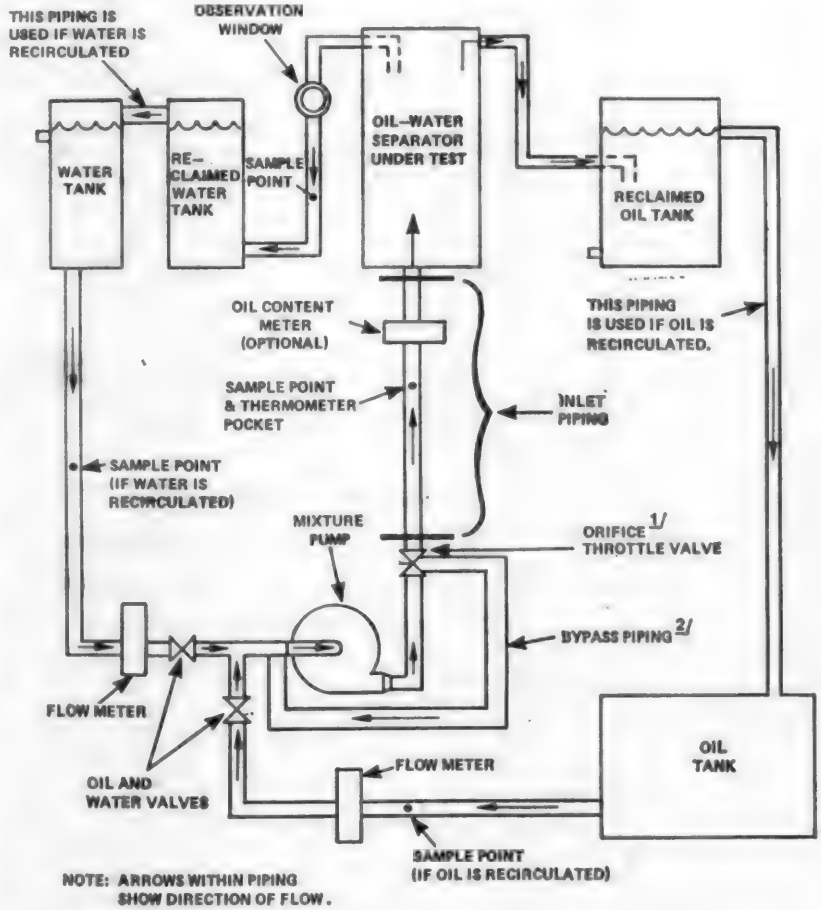
(4) The facility must be free of influence and control of the manufacturers, suppliers, and vendors of the equipment.

(d) A facility may not subcontract for approval testing unless previously authorized by the Coast Guard. A request for authorization to subcontract must be sent to the Commandant (G–MMT–3/83), U.S. Coast Guard, Washington, D.C. 20590.

§ 162.050–17 Separator test rig.

(a) This section describes the test rig to be used in approval testing of separators. A diagram of the test rig is shown in figure 162.050–17(a).

FIGURE 162.050—17(a) - SEPARATOR TEST RIG



1/ NOT REQUIRED IF MIXTURE PUMP HAS BYPASS PIPING. SEE § 162.050–23(a)(4).

2/ NOT REQUIRED IF MIXTURE PUMP PIPING HAS ORIFICE. SEE § 162.050–23(a)(4).

(b) The mixture pump shown in figure 162.050–17(a) is used if a separator does not have a supply pump. (Section 162.050–23(a)(4) of this subpart contains requirements for a mixture pump.)

(c) The inlet piping of the test rig is sized so that—

(1) Influent water flows at a Reynolds Number of at least ten thousand;

(2) The influent flow rate is between one and three meters per second; and

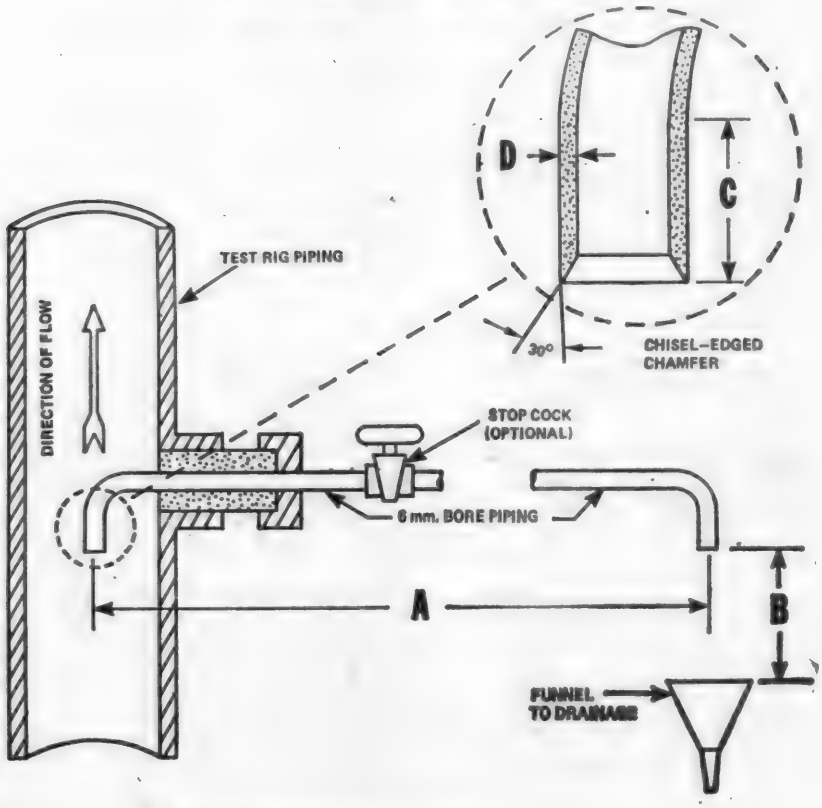
(3) Its length is at least twenty (20) times its inside diameter.

(d) Each sample point on a test rig is of the type described in figure 162.-050–17(e). Each sample point is in a vertical portion of the test rig piping.

§ 162.050–19 Monitor and bilge alarm test rig.

The test rig to be used in approval testing of monitors and bilge alarms is described in figure 162.050–19. Each sample point on the test rig is of the type described in figure 162.050–17(e). Each sample point is in a vertical portion of the test rig piping.

FIGURE 162.050—17(e) - SAMPLE POINT



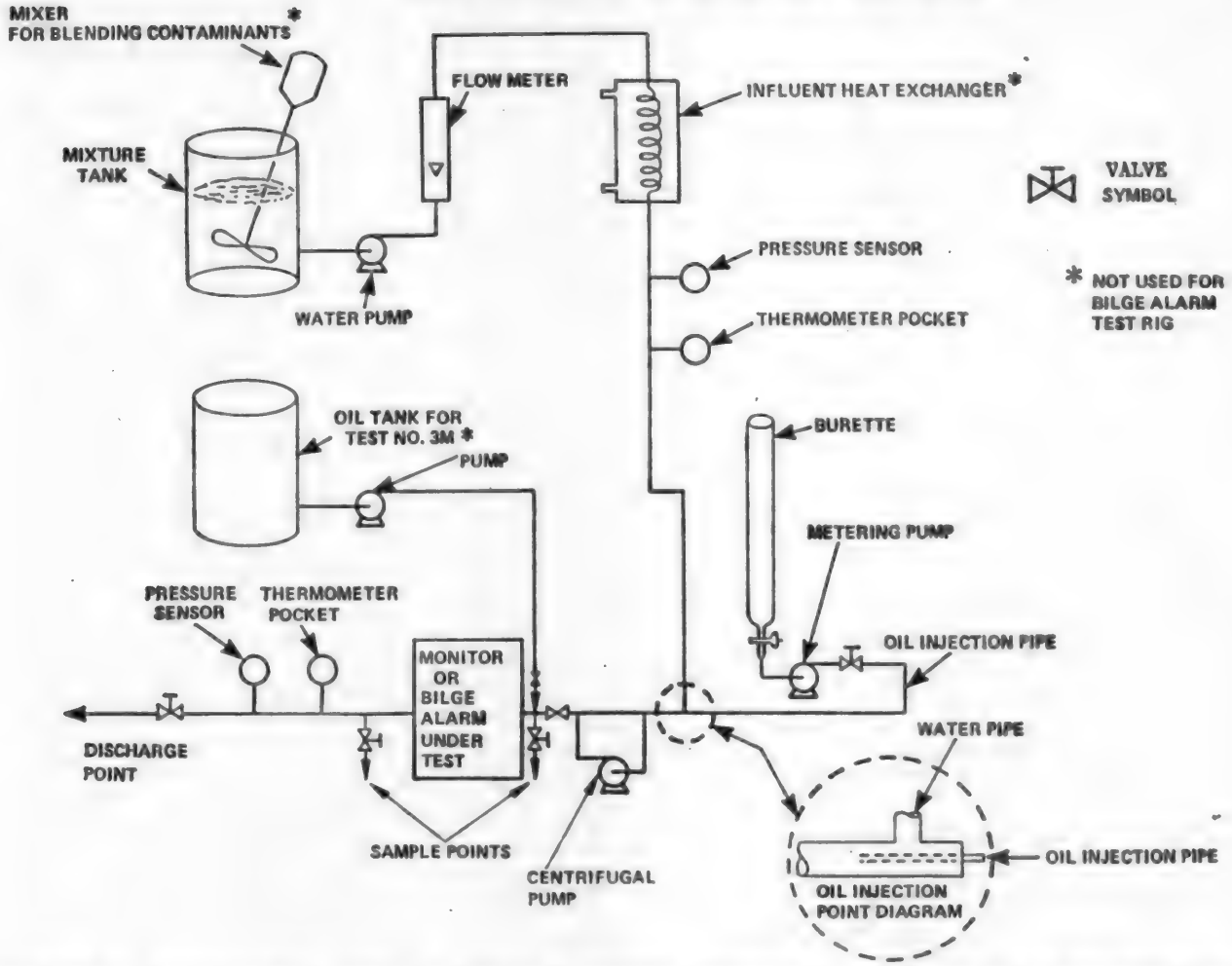
A dimension A is not greater than 400 mm.

B height B is large enough to invert a sample bottle.

C distance C is a straight line of not less than 80 mm.

D width D is not greater than 2 mm.

FIGURE 162.050—19 - MONITOR AND BILGE ALARM TEST RIG



§ 162.050–21 Separator design specification.

(a) A separator must be designed to operate in each plane that forms an angle of 22.5° with the plane of its normal operating position.

(b) The electrical components of a separator that are to be installed in an explosive atmosphere must be approved by an independent laboratory as components that Underwriters Laboratories Standard 913 (dated January 20, 1976) defines as intrinsically safe for use in a Class I, Group D hazardous location.

(c) Each separator component that is a moving part must be designed so that its movement during operation of the separator does not cause formation of static electricity.

(d) Each separator must be designed in accordance with the applicable requirements in subchapters F and J of this chapter.

(e) Each separator must be designed to be operated both automatically and manually. Each separator to be installed in an unattended machinery space must be capable of operating automatically for at least twenty-four (24) hours.

(f) Each separator must be designed so that adjustments to valves or other equipment are not necessary to start it.

(g) Each part of a separator that is susceptible to wear and tear must be readily accessible for maintenance in its installed position.

§ 162.050–23 Separator: approval tests.

(a) *Test Conditions.* (1) Each test described in this section must be performed at a throughput equal to the maximum throughput at which the separator being tested is designed to operate. The tests and each of the steps in the tests must be carried out in the order described in this section. Each test must be performed without time delay between steps in the test.

(2) Except as provided in Test No. 3S, the influent oil used in each test must be a heavy fuel oil that has a relative density of approximately 0.94 at 15° C and a viscosity of at least 220 centistokes (approximately 900 seconds Redwood No. 1) at 37.8° C.

(3) A test rig of the type described in § 162.050–17 of this subpart must be used in performing each of the tests.

(4) If a separator has a supply pump, it must be tested using that pump. If a separator does not have a supply pump, it must be tested using a mixture pump provided by the facility. The mixture pump must be a centrifugal pump capable of operating at one thousand (1,000) revolutions per minute or more. The pump must have a delivery capacity of at least one and one half (1.5) times the maximum throughput at which the separator being tested is designed to operate. The pump must have either bypass piping to its suction side or a throttle valve or orifice on its discharge side.

(5) The influent water used in each test must be clean and have a relative density at 15° C that is equal to or less than 0.085 plus the relative density of the heavy fuel oil used in the testing.

(6) Each test must be conducted at an ambient temperature that is between 10° C and 30° C.

(7) The oil content of each sample must be measured using the method described in § 162.050–39 of this subpart.

(8) Each sample must be approximately one (1) liter in volume and must be collected in a narrow-necked glass bottle that has a pressure sealing cap.

(9) Influent oil content must be determined during testing by measuring the flow rates of the oil and water that are mixed to form the influent or by use of an oil content meter on the inlet piping of the test rig. If an oil content meter is used, a sample of influent and a meter reading must be taken at the beginning of each test. If the meter reading is not within ±10 percent of the measurement of oil content of the sample, the meter readings subsequently taken during the test are unacceptable test results.

(10) When collecting a sample at a sample point that has a stop cock, the first minute of fluid flow through the stop cock must not be included in the sample collected.

(11) In each test, the separator must be operated in accordance with the procedures described in its instructions manual.

(b) *Test No. 1S.* The separator is filled with water and started. It is fed with oil for at least five (5) minutes and then with an oil-water influent containing an oil content of between 5,000 and 10,000 p.p.m. until a steady flow rate occurs. After the flow rate is steady, the influent is fed to the separator for thirty (30) minutes. Samples of influent and separated water effluent are taken after the first ten (10) and twenty (20) minutes. At thirty (30) minutes the air cock on the test rig is opened and, if necessary, the oil and water supply valves are closed to stop the flow of influent. A sample is then taken of the separated water effluent as the effluent flow ceases.

(c) *Test No. 2S.* Test No. 1S is repeated using an influent containing approximately 25 percent oil and 75 percent water.

(d) *Test No. 3S.* Tests No. 1S and 2S are repeated using, in lieu of a heavy fuel oil in the influent, a light distillate fuel oil having a relative density of approximately 0.83 at 15° C.

(e) *Test No. 4S.* The separator is fed with oil until oil is discharged at the oil discharge outlet of the separator at essentially the same rate that oil is being fed to the separator. The separator is then fed with oil for five (5) additional minutes. If any oily mixture is discharged from the separated water outlet on the separator during the test, that observation is recorded.

(f) *Test No. 5S.* The separator is fed with water for fifteen (15) minutes. Samples of the separated water effluent are taken at the beginning of the test and after the first ten (10) minutes.

(g) *Test No. 6S.* The separator is operated automatically for three (3) hours. During the test the separator is continuously fed with an influent varying from water to a mixture of 25 percent oil in water and back to water every fifteen (15) minutes. The oil concentration in the influent is varied in at least five (5) equal increments during each fifteen (15) minute period and the time intervals between the incremental changes are equal. During the last period in which the unit is fed a 25 percent oil mixture, a sample of the separated water effluent is taken. If operation of the separator is not continuous during this test, that observation is recorded.

§ 162.050–25 Cargo monitor: design specification.

(a) This section contains requirements that apply to cargo monitors.

(b) Each monitor must be designed so that it is calibrated by a means that does not involve manually mixing a known quantity of oil and a known quantity of water to form a mixture and manually feeding the mixture into the monitor.

(c) The electrical components of a monitor that are to be installed in an explosive atmosphere must be approved by an independent laboratory as components that Underwriters Laboratories Standard 913 (dated January 20, 1976) defines as intrinsically safe for use in a Class I, Group D hazardous location.

(d) Each monitor component that is a moving part must be designed so that its movement during operation of the monitor does not cause formation of static electricity.

(e) A monitor must be designed to operate in each plane that forms an angle of 22.5° with the plane of its normal operating position.

(f) Each monitor must be designed in accordance with the applicable requirements contained in subchapters F and J of this chapter.

(g) Each monitor must be designed so that it records each change in oil content of the mixture it is measuring within twenty (20) seconds after the change occurs.

(h) Each cargo monitor must have a device that produces a warning signal and a signal that can be used to actuate valves in a vessel's fixed piping system, if—

(1) The oil content of the mixture being measured exceeds the concentration limit set by the operator of the monitor; or

(2) Malfunction, breakdown, or other failure of the monitor occurs.

(i) Each monitor must have a means to determine whether it is accurately calibrated.

(j) Each cargo monitor must have a device that has a means to record continuously the amount of oil (in liters) of any oily cargo residue or other oily mixture combined with an oily cargo residue discharged overboard from the vessel on which the monitor is installed and the amount of oil in the discharge per nautical mile of vessel travel. The device must also have a means to record the date and time of discharge. The record must be durable enough to be kept for three (3) years. If the device has more than one scale, it must have a means to show on the record the scale in use at the time of the reading.

§ 162.050–27 Cargo monitor: approval tests.

(a) This section contains requirements that apply to cargo monitors.

(b) *Test conditions.* (1) The tests and each step in the tests must be carried out in the order described in this section. Each test must be performed without time delay between steps in the test.

(2) A test rig of the type described in § 162.050–19 of this subpart must be used in performing each of the tests.

(3) Each mixture used during the tests must be prepared by combining a known flow of oil supplied from the oil injection pipe of the test rig and a known flow of water supplied from the mixture tank of the test rig, except that if the flow of oil through the oil injection pipe becomes intermittent a known quantity of oil and a known quantity of water must be combined in the mixture tank to form the mixture.

(4) A mixture may be circulated through a monitor only once during testing.

(5) Except as otherwise provided, the water used in each test must be clean, fresh water (in lieu of salt water).

(6) The oil used in each test, except Test No. 2CM, must be Arabian light crude oil.

(7) Each test must be performed at an ambient temperature that is between 10° C. and 30° C.

(8) Except as otherwise provided, each test must be performed at the maximum mixture pressure, the maximum flow rate, and the power supply ratings at which the monitor is designed to operate.

(9) The particulate contaminant described in Table 162.050–27(g) must be of a type that does not lose more than three (3) percent of its weight after ignition and must be insoluble.

(10) In each test the monitor must be operated in accordance with the procedures described in its instructions manual.

(c) *Test No. 1CM.* The cargo monitor is calibrated and zeroed. It is then fed with mixtures in concentrations of 0 p.p.m., 15 p.p.m., 50 p.p.m., and 100 p.p.m., followed by concentrations that increase incrementally in size by 50 p.p.m. per concentration up to the highest concentration that can be read on the monitor. Each incremental concentration is fed to the monitor for fifteen (15) minutes and the oil content reading is then recorded. After each concentration is fed to the monitor, the equipment is fed with water for fifteen (15) minutes and the oil content reading then recorded.

(d) *Test No. 2CM.* (1) If the applicant states in his application that the cargo monitor is to be used with crude oils, the monitor is fed with a mixture containing the first oil listed in Table 162.050–27(d) at a concentration of 15 p.p.m. and then at a 100 p.p.m. concentration and at a concentration that is ninety (90) percent of the highest oil concentration in water that can be read on the monitor. Each concentration is fed to the monitor until a steady reading occurs and is recorded. After each steady

reading is recorded, the monitor is fed with water for fifteen (15) minutes. The reading of oil content at the end of each fifteen (15) minute period is also recorded.

(2) The steps described in paragraph (d)(1) of this section are repeated using each of the other oils listed in Table 162.050–27(d).

TABLE 162.050–27(d).—OIL TYPE AND CHARACTERISTICS

Oil type:	Characteristics
1. Sahara blend crude oil.	Density—low; viscosity—low; pour point—very low; producing country—Algeria; general description—mixed base.
2. Arabian light crude oil.	Density — medium; viscosity — medium; pour point —low; producing country — Saudi Arabia; general description—mixed base.
3. Nigerian medium crude oil.	Density—high; viscosity — medium; pour point—low; producing country—Nigeria; general description—napthenic base.
4. Bachaquero 17 crude oil.	Density—very high; viscosity — very high; pour point —low; producing country — Venezuela; general description — asphaltic base.
5. Minas crude.	Density — medium; viscosity — high; pour point—very high; producing country — Indonesia; general description — paraffinic base.
6. Residual fuel.	Bunker C or No. 6 fuel oil.

(3) If any oil listed in Table 162.050–27(d) is unavailable, an oil with similar properties is substituted in testing.

(4) If the applicant states in his application that the monitor is to be used with refined products, the steps described in paragraph (d)(1) of this section are performed using each of the following in lieu of an oil listed in Table 162.050–27(d):

(1) Leaded regular grade automotive gasoline.

(2) Unleaded automotive gasoline.

(3) Kerosene.

(4) Light diesel or no. 2 fuel oil.

(e) *Test No. 3CM.* (1) The cargo monitor is fed with water, zeroed, and then fed with a 100 p.p.m. mixture. The time of turning on the metering pump of the test rig, the time at which the monitor first detects oil in the mixture, the tmes of readng 63 p.p.m. and 90 p.p.m., and the time of reading the highest steady reading of oil content are recorded. The value of the highest steady reading is also recorded.

(2) The metering pump is turned off and the time at which the highest reading starts to decrease, the times of reading 37 p.p.m. and 10 p.p.m., and the time of reading the lowest steady reading are recorded. The value of the lowest steady reading is also recorded.

(3) The time interval between starting oil injection and reading 63 p.p.m. and the time interval between turning the metering pump off and reading 37 p.p.m. are averaged and recorded as the response time for the monitor.

(f) *Test No. 4CM.* (1) The cargo monitor is fed with water, zeroed, and then fed with a mixture containing ten (10) percent oil for one (1) minute. The following times occurring during this procedure are recorded:

(i) Time of turning on the metering pump of the test rig.

(ii) Time at which the monitor first detects oil.

(iii) Time of reading 100 p.p.m.

(iv) Time of exceeding the highest oil concentration that can be read on the monitor.

(v) Time of returning to the highest oil concentration that can be read on the monitor.

(vi) Time of returning to a reading of 100 p.p.m.

(vii) Time of returning to the lowest steady oil content reading.

(2) The value of the lowest steady oil content reading described in paragraph (f)(1)(vii) of this section is recorded.

(3) The monitor is fed with water, zeroed, and then fed with oil for one (1) minute after which the flow of water is resumed. The times described in paragraph (f)(1) of this section are recorded.

(4) The monitor is fed with a 100 p.p.m. mixture until a steady oil content reading is obtained and recorded.

(g) *Test No. 5CM.* (1) The cargo monitor is fed with a 500 p.p.m. mixture until a steady reading is obtained and recorded.

(2) The monitor is fed with a 500 p.p.m. mixture to which sodium chloride has been added to provide a concentration of 60,000 parts per million of sodium chloride in water. The oil content reading, when steady, is recorded.

(3) The monitor is fed with a 500 p.p.m. mixture to which the insoluble particulate contaminant described in Table 162.050–27(g) has been added to provide a concentration of 100 parts per million of particulate contaminant in water. The oil content reading, when steady, is recorded.

TABLE 162.050–27(g)—INSOLUBLE PARTICULATE CONTMINANT

PHYSICAL DESCRIPTION

Particle sizes, microns:	*Percentage by weight of particle size in contaminant*
0–5	39+2
5–10	18+3
10–20	16+3
20–40	18+3
40–80	9+3

(h) *Test No. 6CM.* (1) The cargo monitor is fed with a 100 p.p.m. mixture until a steady oil content reading occurs and is recorded.

(2) The monitor is fed with a 100 p.p.m. mixture that has first passed through the centrifugal pump of the test rig. The pump is run at one fourth (¼) of its design speed. The oil content reading, when steady, is recorded.

(3) The steps described in paragraph (h)(2) of this section are repeated with the pump running at one-half (½) of its design speed and then repeated at its design speed.

(i) *Test No. 7CM.* (1) The steps described in paragraph (h)(1) of this section are repeated.

(2) The temperature of the mixture is adjusted to 10° C. and the flow continued until a steady oil content reading is obtained and recorded.

(3) The steps described in paragraph (i)(2) of this section are repeated with the temperature of the mixture 65° C. or the mixture temperature at which the cargo monitor is designed to operate, whichever is lower.

(j) *Test No. 8CM.* (1) The steps described in paragraph (h)(1) of this section are repeated.

(2) If the cargo monitor has a positive displacement mixture pump, the mixture pressure is lowered to one half of the monitor's maximum design pressure. If the monitor has a centrifugal mixture pump or is not equipped with a mixture pump the mixture flow rate is reduced to one-half of the monitor's design flow rate. The reduced flow rate or mixture pressure is maintained until a steady oil content reading is obtained and recorded.

(3) If the cargo monitor has a positive displacement mixture pump, the mixture pressure is increased to twice the monitor's maximum design pressure. If the monitor has a centrifugal mixture pump or does not have a mixture pump, the mixture flow rate is increased to twice the monitor's maximum design flow rate. The increased flow rate or mixture pressure is maintained until a steady oil content reading is obtained and recorded.

(k) *Test No. 9CM.* (1) The steps described in paragraph (h)(1) of this section are repeated.

(2) The water and metering pumps on the test rig are stopped for eight (8) hours after which the steps described in paragraph (h)(1) of this section are repeated.

(l) *Test No. 10CM.* (1) The supply voltage to the cargo monitor is increased to one hundred and ten (110) percent of its design supply voltage. The monitor is then fed a 100 p.p.m. mixture for one (1) hour. At one (1) hour the oil content reading is recorded.

(2) The steps described in paragraph (l)(1) of this section are repeated with the supply voltage to the monitor lowered to ninety (90) percent of its design supply voltage.

(3) Upon completion of the steps described in paragraph (l)(2) of this section, the supply voltage to the monitor is returned to the design rating.

(4) The steps described in paragraph (l)(1), (l)(2), and (l)(3) of this section are repeated varying each other power supply to the monitor in the man-

ner prescribed in those steps for supply voltage.

(m) *Test No. 11CM.* (1) The monitor is calibrated and zeroed.

(2) The steps described in paragraph (h)(1) of this section are repeated.

(3) A 100 p.p.m. mixture is fed to the monitor for eight (8) hours. At eight (8) hours the oil content reading is recorded.

(4) The monitor is fed with water until a steady oil content reading is obtained and recorded.

(n) *Test No. 12CM.* (1) All power to the monitor is shut off for one (1) week. After one week the monitor is started, zeroed, and calibrated.

(2) The monitor is fed with a 100 p.p.m. mixture for one (1) hour. The oil content reading is then recorded.

(3) The monitor is fed with water for one (1) hour. The oil content reading is then recorded.

(4) The steps described in paragraphs (n)(2) and (n)(3) of this section are repeated three (3) additional times.

§ 162.050–29 Bilge monitor: design specification.

(a) This section contains requirements that apply to bilge monitors.

(b) Each bilge monitor must be designed to meet the requirements of this section and the requirements for a cargo monitor in §§ 162.050–25 (b) through (g) and 162.050–25(i) of this subpart.

(c) Each bilge monitor must have—

(1) A device that produces a warning signal, and a signal that can be used to actuate stop valves in a vessel's fixed piping system, when the oil content of the mixture being measured exceeds 15 p.p.m. ±5 p.p.m.;

(2) A device that produces a warning signal, and a signal that can be used to actuate stop valves in a vessel's fixed piping system, when the oil content of the mixture being measured exceeds 100 p.p.m. ±20 p.p.m.; and

(3) A device that produces a warning signal, and a signal that can be used to actuate stop valves in a vessel's fixed piping system, when malfunction, breakdown, or other failure of the bilge monitor occurs.

(d) Each bilge monitor must have a device that has a means to record continuously the concentration of oil in p.p.m. that the monitor measures. The device must also have a means to record the date and time of the measurement. The record must be durable enough to be kept for three (3) years. If the device has more than one scale, it must have a means to show on the record the scale in use at the time of the reading.

§ 162.050–31 Bilge monitor: approval tests.

(a) This section contains requirements that apply to bilge monitors.

(b) *Test conditions.* (1) Each test must be conducted under the conditions prescribed in this section and under the conditions prescribed for cargo monitors in § 162.050–27 (b)(1) through (b)(4) and § 162.050–27 (b)(7) through (b)(10).

(2) Except as provided in test No. *2BM*, the oil used in each test must be a heavy fuel oil that has a relative density of approximately 0.94 at 15° C and a viscosity of at least 220 centistokes (approximately 900 seconds Redwood No. 1) at 37.8° C.

(3) The water used in each test must be clean and have a relative density at 15° C that is equal to or less than 0.085 plus the relative density of the heavy fuel oil used in the testing.

(c) *Test No. 1BM.* (1) The bilge monitor is calibrated and zeroed. It is then fed with mixtures in concentrations of 0 p.p.m., 15 p.p.m., 50 p.p.m., 75 p.p.m., and 100 p.p.m., followed by concentrations that increase incrementally in size by 25 p.p.m. per concentration up to the highest concentration that can be read on the monitor. Each incremental concentration is fed to the monitor for fifteen (15) minutes and the oil content reading is then recorded. After each concentration is fed to the bilge monitor, the equipment is fed with water for fifteen (15) minutes and the oil content reading then recorded.

(2) The metering and water pumps of the test rig are started and the oil content of the mixture is increased until the device required by § 162.050–29(c)(1) actuates. The oil content of the mixture causing actuation is recorded.

(3) The oil content of the mixture is then increased until the device required by § 162.050–29(c)(2) actuates. The oil content of the mixture causing actuation is recorded.

(d) *Test No. 2BM.* Test No. 1BM is repeated using, in lieu of a heavy fuel oil in the influent, a light distillate fuel oil having a relative density of approximately 0.83 to 15° C.

(e) *Test No. 3BM.* (1) The bilge monitor is fed with water, zeroed, and then fed with a 15 p.p.m. mixture until a steady reading is obtained and recorded. The time of turning on the metering pump of the test rig and the time of obtaining the highest steady reading of oil content are also recorded.

(2) The metering pump is turned off and the time at which the highest steady reading starts to decrease and the time of reading the lowest steady reading are recorded. The value of the lowest steady reading is also recorded.

(3) The steps in paragraphs (1) and (2) of this section are repeated using a 100 p.p.m. mixture.

(f) *Test No. 4BM.* (1) The bilge monitor is fed with water, zeroed, and then fed with a mixture containing (10) percent oil for one (1) minute. The following times occurring during this procedure are recorded:

(i) Time of turning on the metering pump of the test rig.

(ii) Time at which the bilge monitor first detects oil.

(iii) Time of actuation of the device required by § 162.050–29(c)(1).

(iv) Time of actuation of the device required by § 162.050–29(c)(2).

(v) Time of exceeding the highest oil concentration that can be read on the bilge monitor.

(vi) Time of returning to the highest oil concentration that can be read on the bilge monitor.

(vii) Time of returning to the lowest steady oil content reading.

(2) The value of the lowest steady oil content reading described in paragraph (f)(1)(vii) of this section is recorded.

(3) The monitor is fed with water, zeroed, and then fed with oil for one (1) minute after which the flow of water is resumed. The times described in paragraph (f)(1) of this section are recorded.

(4) The monitor is fed with a 15 p.p.m. mixture until a steady oil content reading is obtained and recorded.

(5) The monitor is fed with a 100 p.p.m. mixture until a steady oil content reading is obtained and recorded.

(g) *Test No. 5BM.* (1) The bilge monitor is fed with an 80 p.p.m. mixture until a steady reading is obtained and recorded.

(2) The monitor is fed with an 80 p.p.m. mixture to which sodium chloride has been added to provide a concentration of 60,000 parts per million of sodium chloride in water. The oil content reading, when steady, is recorded.

(3) The monitor is fed with an 80 p.p.m. mixture to which the insoluble particulate contaminant described in Table 162.050–27(g) has been added to provide a concentration of 20 parts per million of particulate contaminant in water. The oil content reading, when steady, is recorded.

(h) *Test No. 6BM.* (1) The bilge monitor is fed a 10 p.p.m. mixture until a steady reading is obtained and recorded.

(2) If the monitor has a positive displacement mixture pump, the mixture pressure is lowered to one half of the monitor's maximum design pressure. If the monitor has a centrifugal mixture pump or is not equipped with a mixture pump, the mixture flow rate is reduced to one half of the monitor's maximum design flow rate. After reduction of the pressure or flow rate, the oil content of the mixture is increased until the device required by § 162.050–29(c)(1) actuates. The oil content causing actuation is recorded.

(3) The bilge monitor is fed with an 80 p.p.m. mixture until a steady reading is obtained and recorded. The oil content of the mixture is then increased until the device required by § 162.050–29(c)(2) actuates. The oil content causing actuation is recorded.

(4) If the monitor has a positive displacement mixture pump, the mixture pressure is increased to twice the monitor's maximum design pressure. If the monitor has a centrifugal mixture pump or if the monitor is not equipped with a mixture pump, the mixture flow rate is increased to twice the monitor's maximum design flow rate. After increasing the pressure or flow rate, the oil content of the mixture is increased until the device required by § 162.050–29(c)(1) actuates. The oil content causing actuation is recorded.

(5) The steps described in paragraph (h)(3) of this section are repeated.

(i) *Test No. 7BM.* (1) The steps described in paragraphs (c) (2) and (c) (3) of this section are repeated.

(2) The water and metering pumps on the test rig are stopped for eight (8) hours after which the steps described in paragraphs (c) (2) and (c) (3) of this section are repeated.

(j) *Test No. 8BM.* (1) The supply voltage to the bilge monitor is increased to one hundred and ten (110) percent of its design supply voltage. The monitor is then fed at 10 p.p.m. mixture for one (1) hour. At one (1) hour the oil content reading is recorded.

(2) The oil content of the mixture is increased until the device required by § 162.050–29(c) (1) actuates. The oil content causing actuation is recorded.

(3) The bilge monitor is fed with an 80 p.p.m. mixture for one (1) hour. At one (1) hour the oil content reading is recorded.

(4) The oil content of the mixture is increased until the device required by § 162.050–29(c) (2) actuates. The oil content causing actuation is recorded.

(5) The steps described in paragraphs (j) (1) through (j) (4) of this section are repeated with the supply voltage to the bilge monitor lowered to ninety (90) percent of its design voltage.

(6) Upon completion of the steps described in paragraph (j) (5) of this section, the supply voltage to the monitor is returned to the design rating.

(7) The steps described in paragraphs (j) (1), (j) (2), (j) (3), and (j) (4) of this section are repeated varying each other power supply to the monitor in the manner prescribed in those steps for supply voltage.

(k) *Test No. 9BM.* (1) The steps described in paragraphs (c) (2) and (c) (3) of this section are repeated.

(2) An 80 p.p.m. mixture is fed to the bilge monitor for eight (8) hours. At eight (8) hours the oil content reading is recorded.

(3) The steps described in paragraphs (c) (2) and (c) (3) of this section are repeated.

(4) The monitor is fed with water until a steady reading is obtained and recorded.

(l) *Test No. 10BM.* (1) All power to the bilge monitor is shut off for one (1) week. After one week the monitor is started, zeroed, and calibrated.

(2) The monitor is fed with an 80 p.p.m. mixture for one (1) hour. The oil content reading is then recorded.

(3) The steps described in paragraphs (c) (2) and (c) (3) of this section are repeated.

(4) The monitor is fed with water for one (1) hour. The oil content reading is then recorded.

(5) The steps described in paragraphs (1) (2), (1) (3), and (1) (4) of this section are repeated three (3) additional times.

§ 162.050–33 Bilge alarm: design specification.

(a) This section contains requirements that apply to bilge alarms.

(b) Each bilge alarm must be designed to meet the requirements for a cargo monitor in §§ 162.050–25 (b) through (g) and 162.050–25(l) of this subpart and the requirements in this section.

(c) Each bilge alarm must have a device that produces a warning signal, and a signal that can be used to actuate stop valves in a vessel's fixed piping system, if—

(1) The oil content of the mixture being measured by the bilge alarm exceeds 15 p.p.m. ±5 p.p.m.; or

(2) Malfunction, breakdown, or other failure of the bilge alarm occurs.

§ 162.050–35 Bilge alarm: approval tests.

(a) This section contains requirements that apply to bilge alarms.

(b) *Test Conditions.* (1) Each test must be conducted under the conditions prescribed for cargo monitors in § 162.050–27 (b) (1) through (b) (5) and § 162.050–27(b) (7), (b) (8), and (b) (10) of this subpart.

(2) Each test must be performed using a light distillate fuel oil having a relative density of approximately 0.83 at 15° C.

(c) *Test No. 1A.* The bilge alarm is calibrated and zeroed. The metering and water pumps of the test rig are started and the oil content of the mixture is increased until the alarm actuates. The oil content of the mixture causing actuation of the alarm is recorded. The alarm is then fed with water for fifteen (15) minutes.

(d) *Test No. 2A.* (1) The metering and water pumps of the test rig are started and the oil content of the mixture is increased until the bilge alarm actuates. The oil content of the mixture causing actuation of the alarm is recorded.

(2) If the alarm has a positive displacement mixture pump, the mixture pressure is reduced to one-half (½) of the alarm's maximum design pressure. If the alarm has a centrifugal mixture pump or is not equipped with a mixture pump, the mixture flow rate is reduced to one-half (½) of the alarm's maximum design flow rate. After reduction of pressure or flow rate, the oil content in the mixture is increased until the alarm actuates. The oil content of the mixture causing actuation of the alarm is recorded.

(3) If the alarm has a positive displacement mixture pump, the influent pressure is increased to twice the alarm's maximum design pressure. If the alarm has a centrifugal mixture pump or if the alarm is not equipped with a mixture pump, the influent flow rate is increased to twice the alarm's maximum design flow rate. After increasing the pressure or flow rate, the oil content in the mixture is increased until the alarm actuates. The oil content of the mixture causing actuation is recorded.

(e) *Test No. 3A.* (1) The steps described in paragraph (d) (1) of this section are repeated.

(2) The metering and water pumps of the test rig are stopped for eight (8) hours.

(3) The metering and water pumps are started and the oil content of the mixture is increased until the bilge alarm actuates. The oil content of the mixture causing actuation is recorded.

(f) *Test No. 4A.* (1) The steps described in paragraph (d) (1) of this section are repeated.

(2) The supply voltage to the bilge alarm is raised to one hundred ten (110) percent of its design supply voltage. The oil content of the mixture is then increased until the alarm actuates. The oil content of the mixture causing actuation is recorded.

(3) The supply voltage to the alarm is lowered to ninety (90) percent of its design supply voltage. The oil content of the mixture is then increased until the alarm actuates. The oil content of the mixture causing actuation is recorded.

(4) Upon completion of the steps described in paragraph (f) (3) of this section, the supply voltage to the alarm is returned to its design value.

(5) The steps described in paragraphs (f) (2), (f) (3), and (f) (4) of this section are repeated varying each other power supply to the alarm in the manner prescribed in those steps for supply voltage.

(g) *Test No. 5A.* (1) The steps described in paragraph (d) (1) of this section are repeated.

(2) The bilge alarm is fed with a 5 p.p.m. mixture for eight (8) hours. After eight (8) hours the oil content of the mixture is then increased until the alarm actuates. The oil content of the mixture causing actuation is recorded.

(h) *Test No. 6A.* (1) All power to the bilge alarm is shut off for one (1) week. After one (1) week the alarm is then started, zeroed, and calibrated.

(2) The steps described in paragraph (d) (1) of this section are repeated. Water is then fed to the alarm for one (1) hour.

(3) The steps described in paragraph (h) (2) are repeated seven (7) additional times.

§ 162.050–37 Vibration test.

(a) Equipment submitted for Coast Guard approval must first be tested under the conditions prescribed in paragraph (b) of this section. The test must be performed at an independent laboratory that has the equipment to subject the item under test to the vibrating frequencies and amplitudes prescribed in paragraph (b) of this section. The test report submitted with the application for Coast Guard approval must be prepared by the laboratory and must contain the test results.

(b) Each bilge alarm and monitor and each control of a separator must be subjected to continuous sinusoidal vibration in each of the following directions for a 4 hour period in each direction:

(1) Vertically up and down.

(2) Horizontally from side to side.

(3) Horizontally from end to end.

The vibrating frequency must be 80Hz, except that the vibrating frequency of equipment that has a resonant frequency between 2Hz and 80Hz must be the resonant frequency. If the vibrating frequency is between 2Hz and 13.2Hz, the displacement amplitude must be ±1 mm.

If the vibrating frequency is between 13.2Hz and 80Hz, the acceleration amplitude must be ±.7g.

§ 162.050-39 Measurement of oil content.

(a) *Scope.* This section describes the method and apparatus to be used in measuring the oil content of a sample taken in approval testing of a separator. Light oil fractions in the sample, with the exception of volatile components lost during extractions, are included in each measurement.

(b) *Summary of method.* Each sample is acidified to a low pH and extracted with two volumes of carbon tetrachloride. The oil content of the sample is determined by comparison of the infrared absorbance of the sample extract against the absorbance of known concentrations of a reference oil in carbon tetrachloride.

(c) *Apparatus.* The following apparatus is used in each measurement:

(1) A separatory funnel of 1000 ml. volume that has a Teflon stopcock.

(2) An infrared spectrophotometer.

(3) A cell of 5 mm. pathlength that has sodium chloride or infrared grade quartz with a minimum of 80 percent transmittance at 2930 cm^{-1}. (This cell should be used if the oil content of the sample to be measured is expected to have a concentration of between 2 p.p.m. and 80 p.p.m.).

(4) A cell of pathlength longer than 5 mm. that has sodium chloride or infrared grade quartz with a minimum of 80 percent transmittance at 2930 cm^{-1}. (This cell should be used if the oil content of the sample to be measured is expected to have a concentration of between 0.1 p.p.m. and 2 p.p.m.).

(5) Filter paper that is medium grade and 12.5 cm. in diameter.

(6) 100 ml. volumetric flasks.

(d) *Storage of sample.* Unless a sample is to be measured on the day of collection, it is preserved by the addition of 5 ml. of hydrochloric acid.

(e) *Reagents.* The following reagents are used in each measurement:

(1) Hydrochloric acid prepared by mixing equal amounts of concentrated hydrochloric acid and distilled water.

(2) Reagent grade sodium chloride.

(3) Reagent grade carbon tetrachloride.

(4) Reference oil, which is a sample of the oil used in the portion of the test during which the sample is collected.

(5) Stock reference standard prepared by weighing 0.30 g. of reference oil in a tared 100 ml., volumetric flask and diluting to 100 ml. volume with carbon tetrachloride.

(f) *Preparation of calibration standards.* A series of dilutions are prepared by pipetting volumes of stock reference standard into 100 ml. volumetric flasks and diluting to volume with carbon tetrachloride. A convenient series of volumes of the stock reference standard is 5, 10, 15, 20, and 25 ml. The exact concentrations of the dilutions in milligrams of oil per 100 milliliters of diluted stock reference standard are calculated. The calibration standards are the dilutions.

(g) *Extraction.* (1) A reagent blank is carried through each step described in this paragraph and paragraph (h) of this section.

(2) If a sample was not acidified at time it was taken, 5 ml. of hydrochloric acid are added to the sample bottle. After mixing hydrochloric acid with the sample, the pH is checked by touching pH-sensitive paper to the bottle cap to ensure that the pH is 2 or lower. More acid is added if necessary until the pH is 2 or lower.

(3) The sample is poured into a separatory funnel and 5 g. of sodium chloride are added.

(4) Fifty (50) ml. of carbon tetrachloride are added to the sample bottle. The bottle is capped tightly and shaken thoroughly to rinse its inside. The contents of the bottle are then transferred to the separatory funnel containing the sample and extracted by shaking vigorously for 2 minutes. The layers are allowed to separate.

(5) The solvent layer is drained through a funnel containing carbon tetrachloride moistened filter paper into a 100 ml. volumetric flask.

(6) Fifty (50) ml. of carbon tetrachloride are added to the sample bottle. The bottle is capped tightly and shaken thoroughly to rinse its inside surface. The contents of the bottle are then transferred to the separtory funnel containing the water layer of the sample. The contents of the separatory funnel are then extracted by shaking vigorously for 2 minutes. The layers are allowed to separate. The solvent layer is then drained through a funnel containing carbon tetrachloride moistened filter paper into the volumetric flask containing the solvent layer of the sample.

(7) The tips of the separatory funnel, filter paper, and funnel are rinsed with small portions of carbon tetrachloride and the rinsings are collected in the volumetric flask containing the solvent layer of the sample. The volume is adjusted with carbon tetrachloride up to 100 ml. The flask is then stoppered and mixed well.

(8) The water layer remaining in the separtory funnel is drained into a 1000 ml. graduated cylinder and the water volume estimated to the nearest 5 ml.

(h) *Infrared spectroscopy.* (1) The infrared spectrophotometer is prepared according to manufacturer instructions.

(2) A cell is rinsed with two volumes of the solvent layer contained in the volumetric flask. The cell is then completely filled with the solvent layer. A matched cell containing carbon tetrachloride is placed in the reference beam.

(3) If a scanning spectrophotometer is used, the solvent layer in the cell and the calibration standards are scanned from 3200 cm^{-1} to 2700 cm^{-1}. If a single beam or non-scanning spectrophotometer is used, the manufacturer's instructions are followed and the absorbance is measured at or near 2930 cm^{-1}.

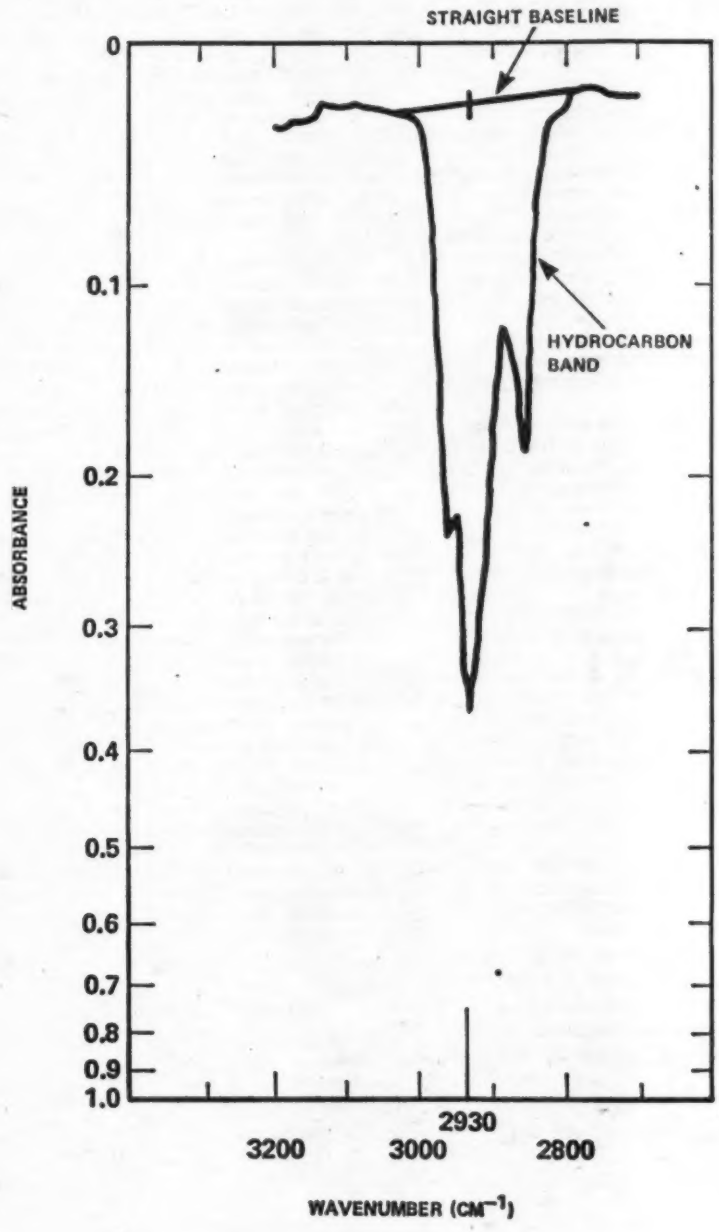
(4) If the scan is recorded on absorbance paper, a straight baseline of the type described in figure 162.050-39(h) is constructed. To obtain the net absorbance, the absorbance of the baseline at 2930 cm^{-1} is subtracted from the absorbance of the maximum peak on the curve at 2930 cm^{-1}.

(5) If the scan is recorded on transmittance paper, a straight baseline is constructed on the hydrocarbon band plotted on the paper. The net absorbance is:

$$\log_{10} \frac{\text{percent } T \text{ (baseline)}}{\text{percent } T \text{ (peak maximum)}}$$

(6) A plot is prepared for net absorbance vs. oil content of the calibration standards or of the percentages of stock reference standard contained in the calibration standards.

FIGURE 162.050—39(h) - SPECTRUM ILLUSTRATING BASELINE CONSTRUCTION



(7) If the net absorbence of a sample determined by the calibration plot exceeds 0.8 or the linear range of the spectrophotometer, a dilution of the solvent layer contained in the volumetric flask after completing the step described in paragraph (g) of the section is prepared by pipetting an appropriate volume of the solvent layer into a second volumetric flask and diluting to volume with carbon tetrachloride. If the net absorbance is less than 0.1 when determined in accordance with the procedures in this paragraph, it is recalculated using a longer pathlength cell.

(i) *Calculations.* (1) The plot described in paragraph (h)(6) of this section is used to determine the milligrams of oil in each 100 ml. of solvent layer contained in the volumetric flask after completing the steps described in paragraph (g) or paragraph (h)(7) of this section.

(2) The oil content of the sample is calculated using the following formula:

$$\text{oil content of sample} = \frac{R \times D \times 1{,}000}{V}$$

R = milligram of oil in 100 ml of solvent layer determined from plot.
D = 1 or, if the step described in paragraph (h)(7) of this section is performed, the ratio of the volume of the 2d volumetric flask described in that paragraph to the volume of solvent layer pipetted into the 2d volumetric flask.
V = The volume of water in milliliters drained into the graduated cylinder at the step described in paragraph (g)(8) of this section.

(3) The results are reported to two significant figures for oil contents below 100 mg/l and to three significant figures for oil contents above 100 mg/l.

NOTE: The Coast Guard has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821, as amended, and OMB Circular A-107.

Dated: June 17, 1977.

O. W. SILER,
Admiral, U.S. Coast Guard,
Commandant.

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